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NORTH LIVERMORE SPECIFIC PLAN

VOLUME III: RESOURCE CONSERVATION PROGRAM

Alameda County • City of Livermore • SWA Group • Lamphier & Associates

April 10, 2000

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CHAPTER ONE: INTRODUCTION



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1.1 PURPOSE AND SUMMARY

The Resource Conservation Program (RCP) is a comprehensive resource conservation and habitat management program for the approximately 13,500 acre North Livermore Valley Specific Plan area. As an essential component of the Specific Plan, the RCP creates a regional effort that focuses on a sub-regional planning and management program designed to protect biological resources, open space, and agricultural lands while new development occurs in areas designated for urbanization in North Livermore. The RCP includes goals, policies and programs for conservation, use, and management of significant biological resource areas, key open space lands, and viable agricultural lands in North Livermore. It also includes habitat management strategies for lands within the RCP area, as well as a separate Management Practices Handbook which provides more detailed practices and procedures designed to avoid, protect and enhance habitat for sensitive species and other sensitive habitat areas. Also included as appendices to the RCP are Conceptual Management Plans for the Springtown Alkali Sink (Appendix A) and the Wetlands Mitigation Design (Appendix B).

The area covered by the Specific Plan ("Plan Area") consists of four zones (see Figure 1). Zone A, which includes approximately 3,200 acres, is referred to as the "Urban Area" and will be the location of all urban development within the Plan Area (see Volume II of the Specific Plan). The Urban Area also includes a 93-acre alkali grassland "Environmental Park" which is proposed to be included as part of a "Birds' Beak/ Alkali Sink Reserve. This Reserve would also include City of Livermore property located in the adjacent Springtown Alkali Sink and other properties that would be managed separately including the EMAX and FCC properties (see Figure 2). Zones B, C, and D, referred to as the "Rural Lands" (see Part II of this Volume of the Specific Plan), collectively include approximately 10,300 acres which will be preserved as agricultural lands, open space, and habitat management areas. The RCP focuses the habitat preservation and conservation efforts in the approximately 8,750 acres which comprise Zones C and D. These lands are identified in the RCP and shown on Figure 1 as "other open space and agricultural lands" which may become habitat management lands because of their potential to enhance existing habitat values. Zone B will be primarily for agriculture and limited rural residential uses.

The RCP is designed for the permanent protection, enhancement where appropriate, and management of important biological resources in North Livermore. By protecting and enhancing the potential habitat management lands within and surrounding the Urban Area, and creating and enhancing habitat values on the potential habitat management lands that become permanently protected, the RCP will serve as a mitigation program for the impacts of new development on biological resources. This will occur through the acquisition and

management of lands with moneys generated by the Resource Conservation Fee and other sources, such as grants from the Bureau of Reclamation and land contributions from willing landowners.

As a habitat-based program, implementation of the RCP will result in the protection of habitat for a variety of special status species occurring in the Plan Area, including the endangered palmate-bracted bird's beak and aquatic species such as the vernal pool fairy shrimp, California tiger salamander and the California red-legged frog. As part of these efforts, the RCP will protect and manage much of the alkali sink habitat located in the eastern portion of Zone A and in the adjacent Springtown Alkali Sink. This will be accomplished in conjunction with the proposed Bird's Beak/Alkali Sink Reserve. Moreover, by preserving large areas of grasslands, the RCP will offer protection to the burrowing owl and other grassland dependent species, and accommodate opportunities for the San Joaquin kit fox to expand into and recover within the non-urban portions of the Plan Area.

The following objectives summarize the intent of the RCP:

- To implement the County and City general plan goals of balancing limited new urban development with permanent protection of surrounding habitat, open space and agricultural lands.
- To fund, create and manage an effectively functioning multi-species habitat-based resource conservation area to fully mitigate and minimize impacts to biological resources resulting from urban and rural development in North Livermore.
- To concentrate development in Zone A, thereby preserving biological and open space resources in Zones C and D and limited agricultural uses in Zone B.
- To implement habitat management strategies (including enhancement activities) that will enhance habitat and/or facilitate the recovery of the following special status species: palmate-bracted bird's beak, vernal pool fairy shrimp, California red-legged frog, California tiger salamander, burrowing owl and San Joaquin kit fox.
- To permanently protect the scenic rural/open space quality of the hills visible from I-580 (the Zone C/I-580 Hills).

The RCP will accomplish these objectives through a variety of mechanisms including a resource conservation fee on new development in Zone A, limited density bonuses for agricultural easements, establishment of a North Livermore Conservancy (the "Conservancy"), and other measures described in this RCP document.

LEGEND

- A Zone A: Urban Area
- B Zone B: Rural Management / Agricultural Enhancement Area
- C Zone C: Large Parcel Agriculture / Resource Management Area
- D Zone D: Large Parcel Agriculture / Resource Management Area
- Plan Area Boundary
- Existing Parcel Boundary

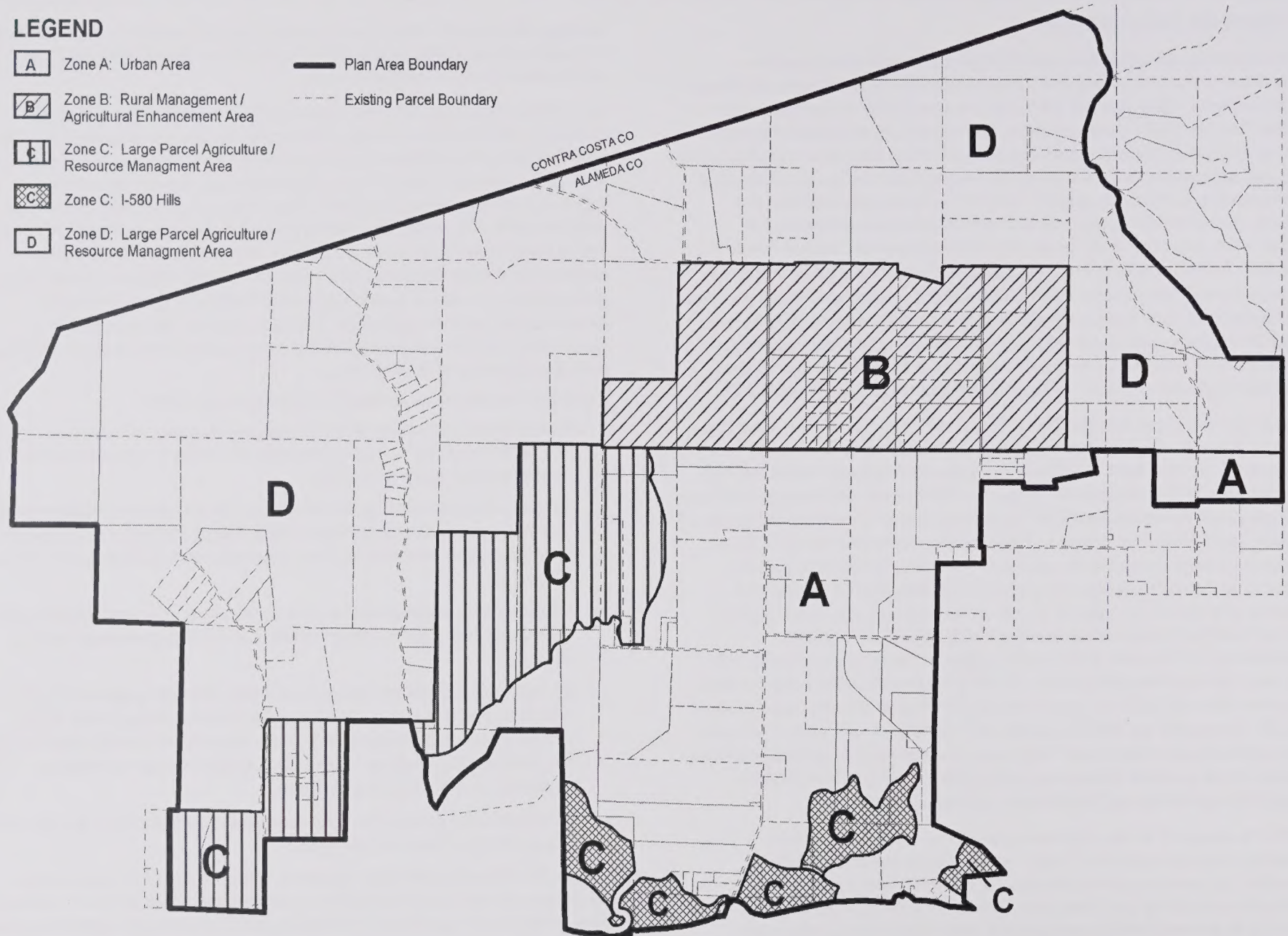


FIGURE 1: RCP AND PLAN AREA ZONES

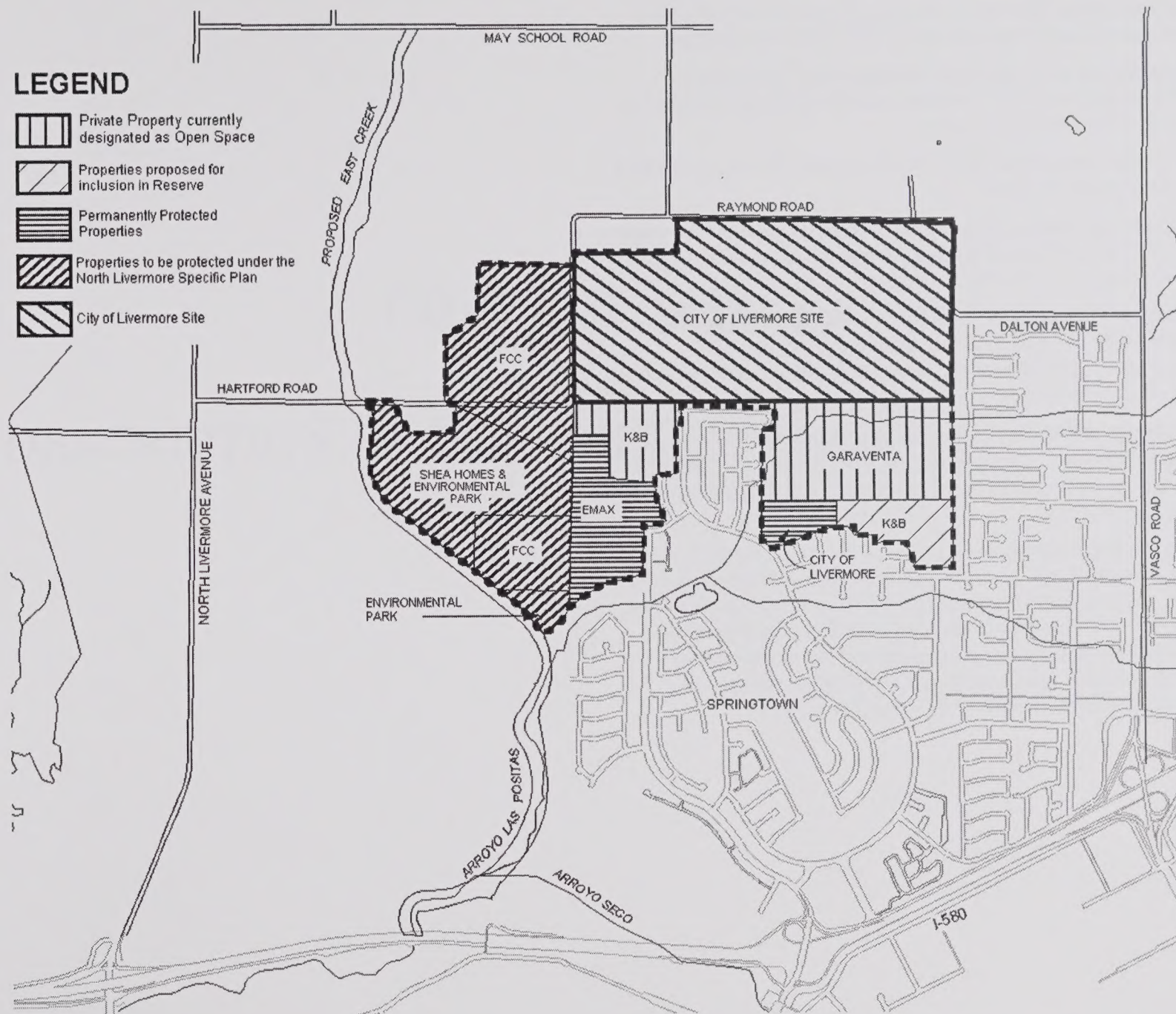


FIGURE 2: BIRDS' BEAK / ALKALI SINK RESERVE

1.2 GUIDE TO THE RCP

Chapter One: Introduction. This chapter states the purpose and objectives of the RCP and briefly summarizes how these objectives will be accomplished.

Chapter Two: Description of the RCP by Planning Zone. This chapter describes the four planning zones of the Specific Plan/RCP and outlines the uses that are planned to occur in each of these areas.

Chapter Three: Components of the RCP. This chapter provides an overview of the three major components of the RCP.

Chapter Four: Goals and Policies. This chapter contains the goals, policies and programs of the RCP. The policies and programs define the structure of the RCP and provide specific direction for its implementation.

Chapter Five: Habitat Management. This chapter summarizes the existing biological resources within the Plan Area and outlines general habitat management strategies for grassland and wetland/riparian/aquatic habitats and for the Plan Area's special status species.

Chapter Six: Implementation. The last chapter reviews jurisdictional responsibilities regarding permit approvals and discusses the types of regulatory actions that may be required for public improvements and specific development projects under the Specific Plan.

RCP Management Practices Handbook. A separate document, the RCP Management Practices Handbook, serves as a more detailed practices and procedures manual to guide the management of specific sensitive species known to occur within or in the vicinity of the Plan Area, as well as management of specific habitat areas including the area encompassed by the proposed Bird's Beak/Alkali Sink Reserve and the Cayetano and East Creek corridors. The handbook also contains general guidelines for wetland mitigation.

CHAPTER TWO:

DESCRIPTION OF THE RCP BY PLANNING ZONE

The RCP is a zone-based program organized around the principle that open space and agricultural lands are compatible and offer important biological resource values if managed to preserve and enhance existing habitat. The Specific Plan/RCP divides the Plan Area into four planning zones based on site characteristics such as slope, elevation, proximity to the Urban Area, suitability for agriculture, visual resources, wildlife resources, vegetation, and existing and proposed future uses on adjacent land. The land uses allocated to each zone reflect that zone's "best use". Figure 1 depicts the boundaries of the Plan Area Zones.

2.1 ZONE A: URBAN AREA

Zone A is located in the south-central portion of the Plan Area and consists of approximately 3,200 acres (approximately 24% of the Plan Area). Because this area is relatively flat and is adjacent to developed land to the south, east and west, Zone A is the focus of new development in North Livermore and would be annexed to the City of Livermore.

The land use program for the Urban Area involves compact urban development with a permanent urban boundary at May School Road as described in Volume II of the Specific Plan. Proposed land uses include residential, mixed use, commercial, schools, parks and open space. The Urban Area is ultimately planned to accommodate up to a maximum of 12,500 dwelling units, 476,000 square feet of Village Core mixed-use development, 218,000 square feet of support commercial uses, eight schools, 180 acres of parks, approximately 360 acres of open space and habitat management areas, other public or institutional facilities, and extensive roads and utility infrastructure.

Development will be phased in the Urban Area to:

- Provide for a compact development that will support the efficient use of both planned and existing infrastructure and public services
- Create development areas which may be effectively served by public services
- Encourage the early establishment of a viable Village Core

The first phase is planned to include approximately 4,900 units, a portion of the Village Core, 80 acres of parks, two elementary schools, one middle school, and one high school, as well as necessary roads and infrastructure.

Protected and/or enhanced habitat areas in Zone A include a 94-acre alkali grassland "Environmental Park" and a habitat restoration plan for Cayetano Creek.

The Specific Plan provides for the imposition of fees on developed acreage within Zone A as described in Chapter Three. The fees will be used to acquire easements and land in fee title in Zones B, C and D and to fund specific habitat management programs.

2.2 ZONE B: RURAL MANAGEMENT/ AGRICULTURAL ENHANCEMENT AREA

Zone B lies immediately north of Zone A, includes the Bel Roma residential area, and consists primarily of valley land and low hills currently used for grazing and dry farming. Zone B is located generally north of May School Road and south of Manning Road, and is intended as a 1,550 acre transition zone in the central portion of the Plan Area (approximately 11.5% of the Plan Area). Zone B would permanently remain under the jurisdiction of Alameda County.

The focus of Zone B is to preserve the area's rural character and retain the majority of the area in agriculture by providing incentives for enhancing agricultural viability. Limited rural development in Zone B will permanently protect this area's rural character and provide an appropriate buffer between the Urban Area and the hillier open space in Zones C and D (see Part II, Chapter One of this Volume for Zone B policies and rural development standards).

While Zone B boundaries are drawn along existing property lines wherever possible, the general geographic limits of Zone B were established based on the following criteria:

- Relatively flat terrain (under 15% slope)
- Suitability for enhanced, more intensive agriculture due to good soils and the availability of irrigation water to support higher value crops.¹
- Appropriate "rural" transition/buffer area between urban uses and resource management/ large parcel agricultural area
- No more than a mile from May School Road (This is the distance for which irrigation water could be reasonably supplied as well as the area of highest risk for speculation as a result of urbanization of Zone A).

An Agricultural Suitability Study analyzed the economics of farming in Zone B based on the quality of soils, slopes, costs of land and water, and similar factors. According to this study, the western portion of Zone B is better suited for high

¹ With a water source to sustain high value crops, smaller lot sizes (*i.e.*, less than 100 acres) for agriculture may be considered "viable." In the absence of irrigation water, parcels of 100 acres or larger in size are typically needed to sustain agricultural enterprises (*e.g.* grazing, dry farming).

value crops such as grapes, specialty vegetables, and other row crops. In order to foster intensive agricultural development of this area and encourage the dedication of agricultural easements, the Specific Plan provides that reclaimed water for agricultural irrigation will be made available at affordable rates. Zone B landowners will have the responsibility of extending the necessary infrastructure from the reclaimed water lines at May School Road.

Landowners in Zone B may sell conservation or agricultural easements to the Conservancy. In return for dedication of their Zone B lands to the Conservancy, Zone A landowners may receive credit against their Resource Conservation Fees.

Residential development in Zone B under the County's A (Agricultural) district is limited to rural densities of one dwelling unit per 100 acre potential. To encourage Zone B landowners to maintain their property in agricultural and other non-urban uses, the Specific Plan offers a density bonus program wherein landowners receive additional residential density in exchange for the dedication of easements on approximately 90 percent of their land. The intent of this program is to establish a network of permanently preserved non-urban areas surrounding the urbanized portions of North Livermore.

2.3 ZONE C: I-580 HILLS AND LARGE PARCEL AGRICULTURE / RESOURCE MANAGEMENT

Zone C consists of the visually prominent hillside areas adjacent to Zone A including those fronting I-580 (the Zone C/I-580 Hills) and the hills immediately to the west of the urban area. Although Zone C lands are similar to the open space lands in Zone D, the Zone C lands comprise a separate zone because of their proximity to Zone A and because of their visual prominence and scenic resource quality. This visually sensitive zone totals 1,700 acres in size which is approximately 12% of the Plan Area. Key uses within Zone C include large parcel agriculture/resource management uses and residential densities of 1 dwelling unit per 100 acre potential (see Part II, Chapter Two for Zone C and D policies and rural development standards). Zone C will permanently remain under the jurisdiction of Alameda County with the exception of approximately 425 acres of lands within the Zone C/I-580 Hills, which will be annexed to the City of Livermore.

Under the RCP, landowners in Zone C may sell conservation or agricultural easements to the Conservancy. In return for dedication of Zone C lands, Zone A landowners may receive credit against their Resource Conservation Fees.

2.4 ZONE D: LARGE PARCEL AGRICULTURE / RESOURCE MANAGEMENT LANDS

Zone D contains 7,050 acres located on the gentle slopes at the northern end of the North Livermore Valley and the more distant hills and canyons in the western, northwestern and northeastern sections of the Plan Area (approximately 52% of the Plan Area). The zone includes two narrow valleys (Doolan and Collier Canyons) to the west, and the Vasco Corridor to the east. Permitted land uses in this zone are the same as those in Zone C (see Part II, Chapter Two of this Volume for Zone C and D policies and rural development standards). As with Zone B and most of Zone C, Zone D will permanently remain under the jurisdiction of Alameda County. Landowners in Zone D may sell conservation easements to the Conservancy. Zone A landowners, in return for dedication of a conservation easement to the Conservancy over lands they own or control in Zone B would receive credit against their Resource Conservation Fees.

CHAPTER THREE:

COMPONENTS OF THE RCP

A fundamental priority of the Specific Plan is the creation of a permanent resource conservation program, the RCP. This Program is integrally linked with the proposal for urban land use for North Livermore in order to set definable edges to urban growth, manage biological resources, maintain both the area's rural characteristics and its ongoing agricultural uses, and provide responsible public access to trails. The RCP is based on the notion that permanent resource conservation and open space protection are essential to successfully implementing the compact pattern of land uses planned for the urban area of North Livermore.

The following components of the RCP will ensure the protection of open space, agricultural lands, and habitat areas within the Plan Area:

- Establishment of North Livermore Conservancy
- Establishment of Habitat Management Lands
- Resource Conservation Program Fee

3.1 ESTABLISHMENT OF NORTH LIVERMORE CONSERVANCY

The RCP will be implemented by the North Livermore Conservancy. The functions of the Conservancy will include, but not be limited to:

- Administration of the Resource Conservation Fee Program and other funds generated by the RCP
- Acquisition and administration of easements in perpetuity that further the goals of the RCP including lands for multi-species habitat preservation
- Acquisition of property from willing sellers for habitat management purposes
- Administration of habitat management strategies that are designed to accommodate ongoing agricultural activities

The Conservancy will acquire, enhance and manage lands with important existing or potential biological values. These proposed habitat management lands in Zones A, B, C and D are considered potential habitat management lands because of their biological resource value. Once the potential habitat management lands are acquired in fee title or easement, the Conservancy will oversee the disposition of these lands as part of an overall habitat management area as described in the programs implementing Goal 2 of this RCP (see Chapter Four).

The following considerations shall guide the Conservancy's standards and priorities for acquisition of land in easement for purposes of implementing the RCP in the habitat management areas.

- Voluntary property owner participation (i.e., willing seller) with significant incentives to ensure adequate landowner participation
- Preservation of lands best suited to meet resource management goals set forth in the RCP and most affected by development pressures
- Preservation of large contiguous tracts of habitat lands that will enhance opportunities for long-term species protection
- Lands suitable for species-specific habitat creation/enhancement to mitigate for impacts of developed land
- Contiguous properties offering opportunities for wildlife corridors or public trails
- Lands of higher natural resource values, including drainage channels, wetlands, and special status species habitat
- Visual resource areas including lands visible from the Urban Area and public rights-of-way

Potential habitat management lands will be identified and designated for acquisition in fee or easement by the Conservancy. The Conservancy will manage the acquired habitat management lands in a manner that protects special status species and mitigates the impacts in the Plan Area. Additionally, the Conservancy will oversee the management of new habitat created by or on behalf of landowners in those cases where development cannot feasibly avoid areas of high habitat value (e.g., wetlands and riparian areas) identified in the RCP.

The non-profit Conservancy will also administer the agricultural management policies for lands acquired under fee or easement in Zones B, C, and D which continue to engage in agricultural practices. Efforts will be made to ensure these lands continue to provide opportunities for agricultural production in addition to habitat management. The Conservancy will utilize Resource Conservation Fees to provide cash or an annuity for landowners who voluntarily sell conservation easements or fee title to the Conservancy or its designee. A detailed description of the formation and operation of the Conservancy is provided in Chapter Four under Goal 2.

3.2 ESTABLISHMENT OF HABITAT MANAGEMENT LANDS

The Conservancy will oversee the acquisition, establishment, and management of the habitat management lands. The Conservancy staff will include a part-time consulting biologist with range management experience to ensure that habitat management activities are implemented in accordance with the RCP.

The following criteria will be used to identify high priority lands for acquisition to implement the goal of establishing habitat management lands.

- A large contiguous area that could ultimately be managed as a unit and in a manner to support higher habitat values for wetland and grassland dependent species (e.g., burrowing owl, California tiger salamander, California red legged frog, palmate-bracted bird's beak and San Joaquin kit fox) which occur in Plan Area or the surrounding region.
- Lands that could be enhanced or conserved for use by species which do not presently occur within the Plan Area.
- Lands in Zones A, B, C and D that are known to support special status species (e.g., California tiger salamander and California red-legged frog) and are likely to be impacted by development.
- Opportunity to connect the potential habitat management lands to other large, contiguous open space areas that support special status species, including the Los Vaqueros Watershed Lands and Brushy Peak.
- Occurrence of lands containing existing habitat for special status species, and that have the potential to be managed for higher habitat values.
- Presence of conditions that are essential to the long-term sustainability of the proposed Bird's Beak/Alkali Sink Reserve. Portions of the eastern region of the Plan Area contain concentrations of salts and borons that are essential to long-term sustainability of the bird's beak habitat.
- Where a buffer is necessary between agricultural lands and habitat management lands, the buffer shall occur on the potential habitat management lands.

The RCP is designed to encourage the co-existence of agricultural uses with habitat management practices to:

- Ensure that potential habitat management lands can be managed in a manner that protects existing biological resources and enhances habitat for wildlife.
- Ensure that habitat management strategies are designed to accommodate ongoing agricultural activities. In most cases, the RCP will not have

participation requirements that will restrict agricultural enterprises in a manner that would impede the long-term viability of the agricultural areas.

- Ensure that the purchase of land in fee and sale/lease-back to the agricultural community are consistent with the habitat management objectives of the RCP.

3.3 RESOURCE CONSERVATION FEE PROGRAM AND FUNDING

The RCP authorizes the collection of fees from urban development in Zone A through the "Resource Conservation Fee Program" to fund the mitigation of biological, open space, and agricultural resource impacts resulting from new urban development in the Plan Area. The collected funds will be used to secure large contiguous rural/open space lands for habitat and agricultural management. Protection of lands surrounding the urban area will also prevent or limit growth inducing impacts by containing development within designated urban areas.

The Resource Conservation Fee Program is critical to the overall success of the RCP. Developers of land in Zone A will be required to contribute \$25,000 per residentially developed acre (excluding arterial roads, parks, creek corridors and schools) as a mitigation fee for the loss of habitat, open space and agricultural lands in Zone A. The \$25,000 per acre fee shall be equivalent to 1999 dollars and adjusted by the City for inflation based on the San Francisco Bay Area All Urban Consumers, or subsequently adopted, price index. Payment of the fee shall occur prior to recording of final map. Although the \$25,000 fee will fund the acquisition of land for rural/open space preservation, habitat management, and wetlands mitigation, landowners impacting wetlands habitat or other sensitive resources such as special status species will be required to separately fund the creation of wetland or other mitigation needed to offset the impacts caused by their specific development projects.

Funds generated by the Resource Conservation Fee collected from Zone A developers will be used to acquire lands from willing sellers in fee or in easement to preserve existing open space and agricultural lands as part of the habitat management lands. The Conservancy will prioritize the purchase of such lands in a timely manner to assure adequate mitigation is available to offset impacts of each specific development project in Zone A at the time such development is approved. When easements are purchased, they will be individually designed for each property owner to continue agricultural practices consistent with the RCP. The Conservancy will also use the Resource Conservation Fees to fund the creation of habitat and ongoing maintenance and monitoring activities described in Chapter Five.

Total funds anticipated to be generated by the Fee over the 21+ year project life are approximately \$50 million dollars (including the value of dedicated lands). Based on the Open Space Feasibility Study accepted by the Livermore City Council and Alameda County Board of Supervisors by the Joint Planning Staff in July 1996, this funding should be sufficient to protect up to 8,300 acres within the Plan Area (see Table 1, Resource Conservation Phasing below).

Additional funding for the RCP will be generated from a combination of sources including mitigation fees (approximately \$3 million) on development outside of the North Livermore Plan Area (e.g., Shea Center Livermore); grants (approximately \$1 million); and donations and memberships in the Conservancy. The City has already been granted \$70,000 from the Bureau of Reclamation and U.S. Fish and Wildlife Service toward the purchase of lands in the Bird's Beak Reserve area adjacent to the Environmental Park.

Table 1: Resource Conservation Phasing

By Year	Estimated Dollars to Conservation Fund	Cumulative Dollars to Conservation Fund	Approximate Acres in Easement	Cumulative Acres in Easement
1	\$0	\$0	1,000 ¹	1,000
5	\$6,000,000	\$6,000,000	1,000 ²	2,000
10	\$12,500,000	\$18,500,000	2,100	4,100
15	\$12,500,000	\$31,000,000	2,100	6,200
20	\$12,500,000	\$43,500,000	2,100	8,300

¹ The 1,000 acres acquired at Year 1 will be dedications from urban developers that will offset some of their Resource Conservation Fee obligation. Hence the reduced funding shown at Year 5 and the reduced overall expenditure total.

² Calculated at 600 homes per year at 6 units per acre and \$6,000 per acre average easement cost.

This chapter contains the goals and policies of the Resource Conservation Program. The goals and policies will be implemented through the programs and implementation strategies that follow each section of policies, by the habitat management strategies described in the RCP's Chapter Five, and through the detailed practices and procedures of the RCP Management Practices Handbook.

GOAL 1: Create an Effectively Functioning Multi-Species Habitat Management Area Within the Resource Conservation Program Area to Fully Mitigate Impacts to Biological Resources as a Result of Urban and Limited Rural Development in the Plan Area

Policy 1.1: Resource Conservation Program Management Area Boundaries. Establish the RCP boundaries to include sufficient potential multi-species habitat management lands necessary to:

- a) Create a contiguous, effectively functioning multi-species habitat management area
- b) Provide for connectivity between potential habitat management lands within the Plan Area and to other regional habitat lands
- c) Protect the hydrological components necessary to maintain the Environmental Park and the larger proposed Bird's Beak/Alkali Sink Reserve
- d) Mitigate for the loss of habitat as a result of urban and limited rural development in the area
- e) Mitigate for any significant indirect effects of the urban and rural development on the remaining open space lands

Policy 1.2: Resource Conservation Plan Management Practices. Implement a set of species-specific management practices to avoid, minimize or mitigate any potential remaining impacts to special status species. These management practices should be included in a separately adopted management Practices handbook that can be updated by Livermore and Alameda County in consultation with the Conservancy as needed to reflect changes in accepted management practices or measures imposed by state or federal resource agencies during their respective permit process.

- a) Staffs shall prepare an annual report to the City Council and Board of Supervisors for review, as appropriate, presenting them with updates and/or amendments to the Handbook that have taken place during the year.

Policy 1.3: Priority Acquisition Areas. Focus expenditure of acquisition funding with the objective of permanently preserving up to 8,300 acres of potential habitat management lands within Zones C and D through the purchase of conservation

easements and/or fee title from willing sellers. Priority for purchase in easement or fee should be given to lands with the following characteristics:

- a) Large contiguous areas that could ultimately be managed as a unit and in a manner to support higher habitat values for grassland or wetland dependent species that occur in the North Livermore Plan Area
- b) Lands that are known to support special status species, or could support special status species, within potential habitat management lands

Policy 1.4: Proposed Bird's Beak/Alkali Sink Reserve. Establish a Bird's Beak/Alkali Sink Reserve as delineated on Figure 2. Properties within the proposed Reserve that would be managed under the RCP include the Environmental Park located in the Plan Area (see Policy 1.5 below) and the City of Livermore property located in the adjacent Springtown Alkali Sink. Other properties that would be located in the Reserve but would be managed separately include the EMAX and FCC properties. The Reserve may be expanded to include additional properties within the Springtown Alkali Sink which would also be managed under the RCP.

- a) Management of the Bird's Beak/Alkali Sink Reserve shall be conducted according to Program 2D: Bird's Beak/Alkali Sink Reserve Management Program.
- b) Detailed practices and procedures for the conservation, enhancement, and management of relevant properties within the proposed Reserve shall be as described in the RCP Management Practices Handbook.

Policy 1.5: Environmental Park. Establish an Environmental Park within the Plan Area to facilitate the long-term survival of the species that occur in this special habitat area.

Policy 1.6: Wetlands Mitigation Area. Focus the creation of wetlands mitigation areas in the Cayetano and East Creek corridors, in the Environmental Park, and on the City-owned property.

- a) Management of wetlands mitigation areas shall be conducted in accordance with the wetlands management strategy of Program 2.C: General Habitat Management Strategies, and Program 5B: Wetlands Mitigation.
- b) Practices and procedures for the creation, management and monitoring of wetlands mitigation areas shall be conducted consistent with the RCP Management Practices Handbook.

Policy 1.7: Phasing of Acquisitions. The Conservancy shall prioritize the purchase of habitat management lands in a timely manner to assure adequate mitigation is available to offset impacts of development in Zone A as it occurs. An acquisition phasing program shall be developed that ensures that the habitat preservation goals of this RCP are achieved.

PROGRAMS AND IMPLEMENTATION STRATEGIES:

Program 1A: Potential Habitat Management Lands. A total of approximately 8,300 acres of the 13,500 acre Specific Plan Area shall be considered as potential habitat management lands. These lands shall consist of:

- a) All of Zone C (including the I-580 Hills) and Zone D,
- b) Additional habitat management lands as may be acquired in Zone B,
- c) The RCP management boundaries shall also extend to cover the 93-acre Environmental Park in Zone A, and
- d) Adjacent lands within the proposed Bird's Beak/Alkali Sink Reserve that will not be managed separately.

Program 1B: Resource Conservation Phasing. Permanently protect up to 8,300 acres of grasslands habitat in Zones C and D through acquisition of lands in fee or easement from willing landowners. Phasing of open space acquisitions should be conducted generally consistent with the Resource Conservation Phasing Program as shown on Table 1.

GOAL 2: Manage Acquired Habitat Management Lands in a Manner that Promotes the Continued Viability of Special Status Species and Enhances Overall Habitat Values

Policy 2.1: Management of Habitat Management Lands. Potential habitat management lands acquired by the North Livermore Conservancy (See Program 1A: Potential Habitat Management Lands), either in fee or in easement, shall be managed by the North Livermore Conservancy in a manner that contributes to the long-term viability of special status species and enhances the value of multi-species habitat management lands.

- a) Conservation easements on lands acquired from willing sellers shall include required management strategies consistent with Program 2C: General Habitat Management Strategies.
- b) Practices and techniques to ensure habitat values are established, enhanced and maintained over the long-term shall be conducted consistent with the RCP Management Strategies Handbook.

Policy 2.2: North Livermore Conservancy. Incorporate an autonomous non-profit foundation with federal and state tax-exempt status called the North Livermore Conservancy (the "Conservancy"), to oversee the acquisition, enhancement and management of acquired habitat management lands.

Policy 2.3: City/County Role. Prior to the establishment of the Conservancy, the Joint Planning Staff for the City of Livermore and Alameda County shall assume the responsibilities for implementation of the Resource Conservation Program. Once the Conservancy is established and staffed, the City and County will continue to be active participants in directing the work of the Conservancy.

Policy 2.4: Management Strategy. The RCP shall provide a management or mitigation strategy and appropriate monitoring programs for species and/or habitats within the Plan Area. The Conservancy shall oversee management of habitats to ensure achievement of the habitat management goals of this RCP.

Policy 2.5: Species Management. Manage the Environmental Park to maintain to the extent feasible the existing habitat for palmate-bracted bird's beak, vernal pool fairy shrimp, and California tiger salamander.

- a) Apply the adaptive management strategies described in the RCP Management Practices Handbook.

Policy 2.6: Species Monitoring. Monitor populations of special status species in the alkali sink area to assess viability and enable informed habitat management decisions.

- a) Monitoring activities shall be conducted consistent with those described in the RCP Management Practices Handbook.

Policy 2.7: Passive Recreational Uses. Passive recreational uses of the habitat management lands shall be permitted where such uses do not conflict with habitat management objectives. Such uses may include hiking, bicycling, picnicking. Staging areas shall be provided in Zone A, adjacent to trailheads, wherever feasible.

PROGRAMS AND IMPLEMENTATION STRATEGIES

Program 2A: Model Conservation Easement. A model conservation easement shall be developed by the Conservancy to preserve existing habitat on site; enhance habitat where appropriate; avoid conflicts with existing, surrounding and ongoing agricultural users; and manage habitat values consistent with ongoing agricultural uses (See Goal 9). Easements may be individually drafted to meet specific needs of individual sellers and to reflect site characteristics, including habitat value. The Conservancy shall be the holder of the conservation easements,

with the City and County named as third party beneficiaries with the rights to enforce the easements and approve proposed land uses that are subject to approval by the Conservancy under the terms of the easements.

Sample exhibits attached to the RCP consist of;

- a) A Land Management and Enhancement Plan (Appendix C),
- b) A List of Uses and Practices Inconsistent with a Conservation Easement (Appendix D), and
- c) A List of Uses and Practices Consistent with a Conservation Easement (Appendix E).

Program 2B: North Livermore Conservancy Responsibilities. Form the North Livermore Conservancy and Board of Directors to implement the RCP including acquisition, management and enhancement of habitat management lands and to hold title to conservation easements. Alameda County and the City of Livermore shall have the authority to appoint members of the Conservancy Board. The Conservancy should be enabled to purchase or accept donations of lands within the RCP boundaries, in fee or in easement, that further the goals of the Program. Resource Conservation Fees required to be paid by future landowners within the RCP area, and other sources, should be used to fund the purchases. Staff to the Conservancy shall consist of an Executive Director and a part-time consulting biologist qualified to carry out habitat enhancement and management responsibilities set forth in this Specific Plan. Staff will be responsible for the daily management and operations of the Conservancy including, but not limited to, the following tasks:

- a) Staffing. Providing staffing to the Board members with responsibility for:
 - i. Developing a detailed annual budget
 - ii. Maintaining an accounting of Resource Conservation Fees paid by Zone A developers and an accounting of all other funds received and dispersed to the Conservancy for management and acquisition activities
 - iii. Preparing an annual report documenting the status of the Conservancy's activities
- b) Acquisitions. Developing a land acquisition program including:
 - i. Acquiring and managing habitat management lands consistent with the goals, policies and programs of the RCP
 - ii. Negotiating and securing conservation easements which contain appropriate measures for habitat protection and enhancement from willing sellers

- iii. Negotiating and securing habitat management lands in fee
 - iv. Maintaining an inventory of the amount and location of acquired habitat management lands.
- c) Assistance to Landowners. Provide assistance to private landowners within the Plan Area including:
 - i. Coordinating outreach workshops for landowners
 - ii. Assisting landowners who are required to provide wetland mitigation and mitigation for special status species with habitat creation enhancement and management
 - iii. Assisting landowners of easement lands with habitat management
 - iv. Monitoring to ensure compliance with conservation easements as warranted.
 - d) Agency Coordination. Coordinating with the USFWS, CDFG, East Bay Regional Parks District ("EBRPD"), Bureau of Reclamation and other resource agencies to meet mutually held RCP objectives, and coordinating with other similar organizations in Contra Costa and Alameda counties.
 - e) Habitat Management Supervision. Overseeing a Scientific Advisory Panel established to advise the Conservancy on implementation of the RCP's adaptive management measures identified as necessary to meet the objectives of the RCP. This role may include:
 - i. Developing site specific management plans consistent with the RCP for acquired lands
 - ii. Implementing species monitoring programs for the species of concern
 - iii. Maintaining an inventory of the amount and location of habitat loss and species impacts within the Plan Area
 - iv. Coordinating special status species surveys
 - v. Monitoring restoration activities in wetlands and other habitats for special status species and monitoring habitat conditions in biological resource management areas
 - vi. Assessing the success of management and restoration efforts
 - vii. Documenting and reporting monitoring results and status of management efforts

Program 2C: General Habitat Management Strategies. The Conservancy will develop site specific management plans for the habitat management properties they acquire. In general, these management plans will be comprised of the appropriate strategies from the list below. Where conservation easements are acquired, the Conservancy will work with private landowners to develop the appropriate management plan.

- a) **Grassland Management Strategies.** Grassland habitat that is acquired by the Conservancy through fee title or easements shall be managed according to the following strategies:
 - i. Manage grazing levels suitably for natural resource enhancement.
 - ii. Restrict the use of rodenticides
 - iii. Develop supplemental watering areas outside of natural wetlands and riparian areas (e.g., watering troughs for cattle).
- b) **Wetland Management Strategies.** Wetlands management conducted by the Conservancy shall seek to:
 - i. Identify potential wetlands, and avoid disturbing these areas, especially by discing and planting
 - ii. Enhance or expand wetlands through selected grading and planting
 - iii. Protect wetland watersheds
 - iv. Protect wetlands from excessive grazing
- c) **Riparian and Stream Corridor Management Strategies.** Strategies for the management of riparian and stream corridors shall seek to:
 - i. Establish appropriate zones alongside streams and riparian corridors that are protected from disturbance
 - ii. Plant appropriate species (e.g. willows, sycamores, oaks) to enhance the stream and riparian corridors.
- d) **Aquatic Habitat Management Strategies.** Strategies for the management and protection of aquatic species shall seek to:
 - i. Identify aquatic habitats, and avoid disturbing these areas
 - ii. Enhance or expand aquatic habitats through selected grading and planting
 - iii. Protect the watersheds
 - iv. Protect the aquatic habitats from excessive grazing.

Program 2D: Bird's Beak/Alkali Sink Reserve Management. Properties within the proposed Bird's Beak/Alkali Sink Reserve shall be managed to maintain appropriate existing habitats for the following special status species; palmate-bracted bird's beak, vernal pool fairy shrimp, and California tiger salamander.

- a) **Maintaining the Existing Surface Water Hydrology Regime of the Alakli Sink.** Existing surface water runoff volumes and water quality entering the Alkali Sink shall be maintained during and after Plan Area construction.
 - i. Appropriate modification of watershed runoff into the Alkali Sink shall be implemented to ensure that the total volume of surface runoff entering the Sink is maintained at existing conditions, and that this total volume of runoff is allowed to enter the Alkali Sink at similar entry points and at similar rates of flow as under existing conditions.
 - ii. Provide detention facilities designed to filter and trap sediments and other pollutants from surface water runoff prior to discharge into the Alkali Sink in order to maintain existing surface water quality entering the Sink.
 - iii. Alternatively, supplemental water supply sources such as flood irrigation, stand-by well irrigation or development of a passive subsurface irrigation system may be used to maintain the hydrological regime of the Sink.
- b) **Watershed Management Plan.** A watershed management plan shall be prepared to provide for the preservation and enhancement of the upper stream corridors at the valley margins within Zone D that are tributary to the Bird's Beak/Alkali Sink Reserve. This plan should provide for increased infiltration and water movement into the shallow and semi-confined zones. Most groundwater recharge into the semi-arid alluvial basin occurs along the basin margins, particularly within the upper stream channels where the channels are more defined and sediments in the channel bottom are generally more permeable. This plan may include:
 - i. Small check dams should be installed within the upper stream channels in Zone D to control erosion, detain runoff, and increase infiltration. Willows and cottonwood trees should be planted in the larger drainages to stabilize banks and reduce erosion.
 - ii. Lands acquired for open space preservation pursuant to the REsource Conservation Program should be managed to reduce soil erosion. This would involve development of a plan to control grazing animals through appropriate stocking rates and rotation systems, and fencing to exclude sensitive areas and provide better control of animal movement.

- iii. Since most of the upper watershed lands (outside of the Plan Area) are used for dry-farmed hay and grazing, soil erosion can also be reduced on these lands to minimize sediment delivery to the Sink. A voluntary watershed partnership or other incentive program should be considered in conjunction with the Resource Conservation Program to reduce soil erosion on private lands within the watershed by employing Best Management Practices for farmlands and rangelands. This may involve fencing drainageways and gullies, adding buffer strips along drainage ways, re-seeding range lands and healing gullies and eroded areas in the uplands.
- c) Alkali Sink Restoration Plan. The City and County, in association with the Conservancy and appropriate state, regional and federal agencies (including Zone 7), should establish an on-going program to study the potential for restoring the historic hydrological functions affecting the Alkali Sink. The potential environmental benefits to the Alkali Sink habitat associated with such a program should be weighed against the potential environmental consequences associated with such strategies. Potential restoration strategies may include:
 - i. re-introduction of flooding from Altamont Creek, including measures to protect existing development from flood waters;
 - ii. reducing Altamont Creek groundwater interception;
 - iii. restoration of Brushy Peak tributary flows into the Sink instead of the current practice of routing these flows into the City sanitary sewer system;
 - iv. restoration of gullies that locally drain adjacent wetlands, and
 - vi. backfilling and restoring existing drainage ditches to historic conditions.
- d) Management Plan. A concept for the Management Plan for the Bird's Beak/Alkali Sink Reserve has been prepared, as described in the RCP Management Practices Handbook. This Management Plan identifies adaptive management techniques to be employed in conjunction with input from the Scientific Advisory Panel (described below) based upon the monitoring data collected in accordance with the Management Handbook. The management measures employed to manage the Bird's Beak/Alkali Sink Reserve (including measures to restrict access to the area) will be periodically adjusted with scientific advisory panel input to maintain and enhance the habitat values as described in Chapter Five of this RCP.

- e) Advisory Panel. A scientific advisory panel to the Conservancy shall be established by the Conservancy to review monitoring data collected in accordance with the data gathering provisions outlined in the RCP Management Practices Handbook and will advise the Conservancy regarding any adjustments to the RCP's adaptive management measures necessary or appropriate to meet the objective of maintaining existing habitats and species. Panel members will include a biologist(s) representing the landowners, and may include scientists from the U.S. Fish and Wildlife Service ("USFWS"), California Department of Fish and Game ("CDFG"), Bureau of Reclamation, Stanford Conservation Biology Department, or other scientists knowledgeable in the field of ecology, conservation biology, reserve management, habitat restoration, or other similar disciplines.

Program 2E: Hydrologic Control Program. To minimize the potential effects of the project on the existing hydrology of the alkali sink and the bird's beak population, several project design features and management techniques should be implemented.

- a) The new East Creek corridor should be located as far west of the sink as possible, and should be constructed as a shallow, broad channel to minimize interception of groundwater.
- b) Potential impacts on groundwater flow resulting from installation of utility trenches should be minimized by designing trenches to allow the passage of water in permeable zones, and by capping trench bottoms and ends in groundwater flow zones to prevent flow diversion.
- c) In developed areas adjacent to the sink, controls on landscaping or irrigation should be implemented as necessary to prevent "nuisance flows" from entering the sink.
- d) Practices and procedures for implementation of these measures are described in the RCP Management Practices Handbook.

GOAL 3: Obtain Funding Necessary to Implement the Resource Conservation Program

Policy 3.1: Resource Conservation Fee Program. New urban development within Zone A shall be required to mitigate impacts on habitat and agricultural lands by means of paying a Resource Conservation Fee of \$25,000 per residentially developed acre (excluding arterial roads, parks, creek corridors and schools) to fund the acquisition of lands for wetlands mitigation and open space/habitat preservation.

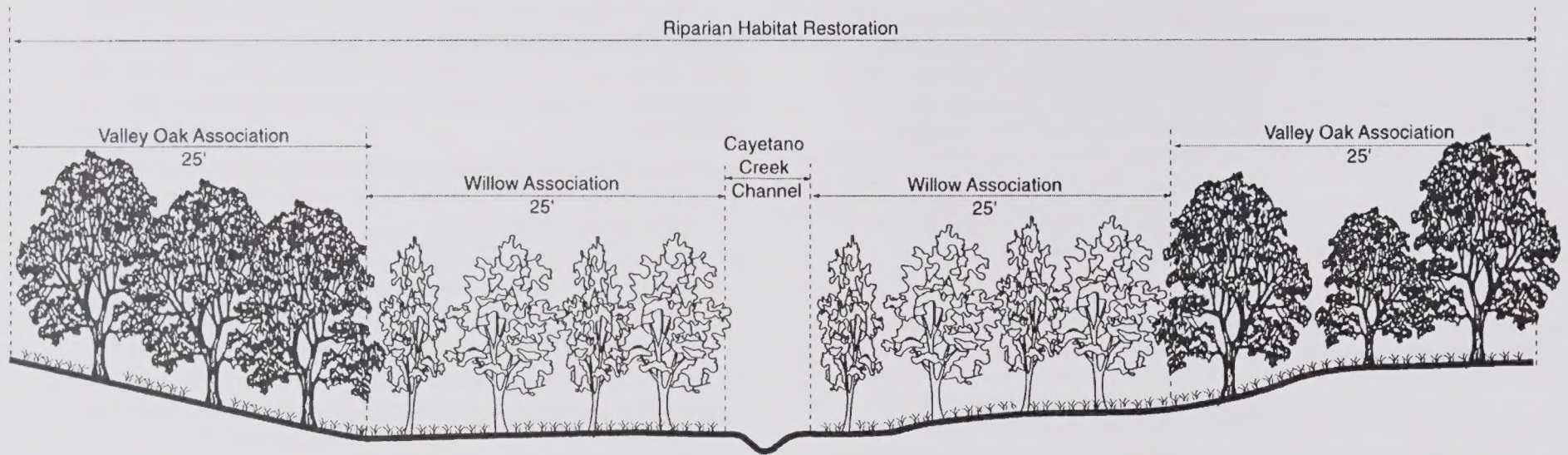


FIGURE 3: LOWER CAYETANO CREEK RIPARIAN RESTORATION

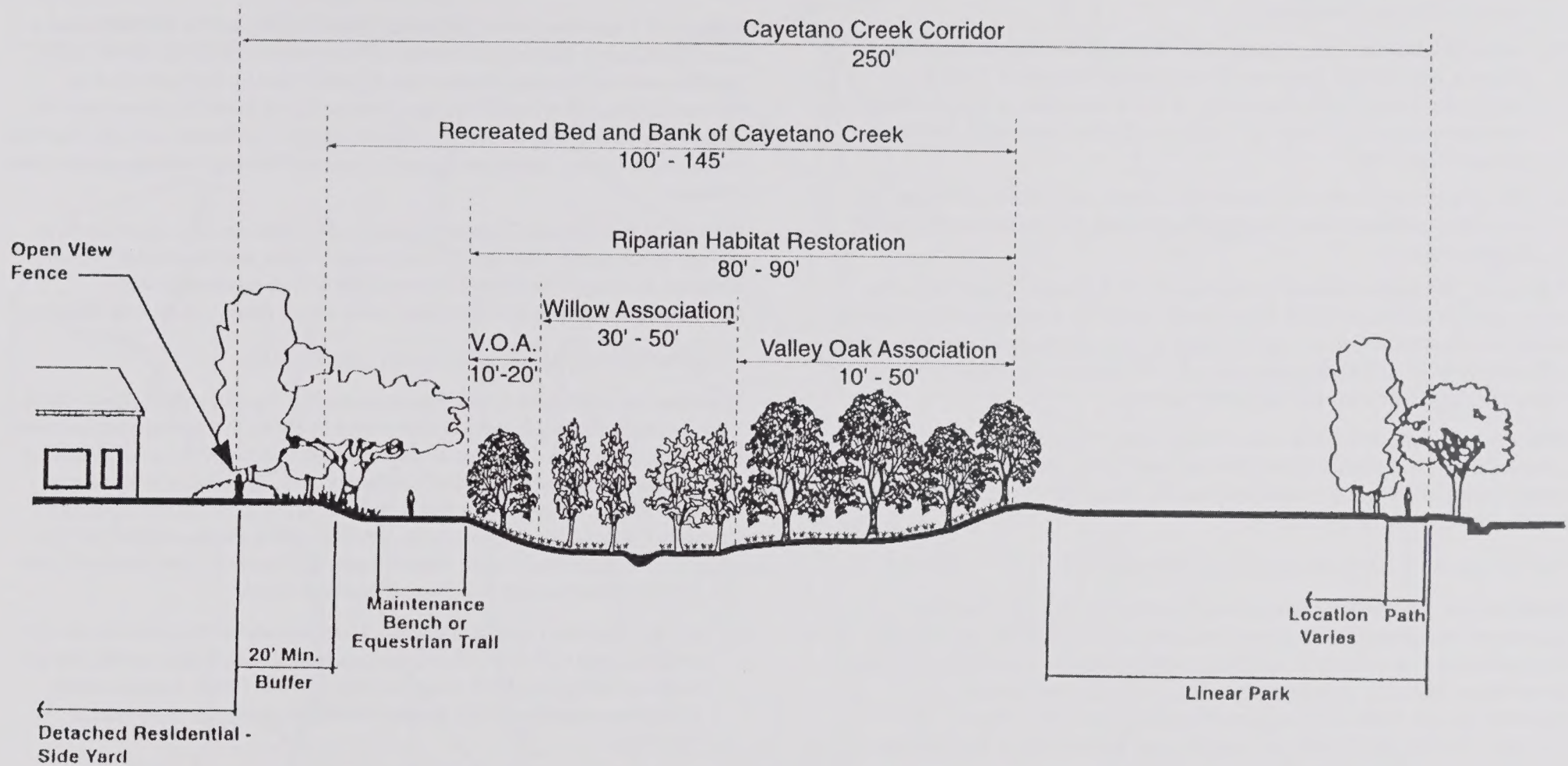


FIGURE 4: UPPER CAYETANO CREEK RIPARIAN RESTORATION

- a) The \$25,000 fee shall be equivalent to 1999 dollars and adjusted for inflation based on the San Francisco Bay Area All Urban Consumers, or subsequently adopted, price index.
- b) Payment of the fee to the City of Livermore shall occur prior to recording a final map. Following payment, the fees collected by the City shall be transferred to the Conservancy.
- c) Funds shall be used in accordance with the Resource Conservation Fee Program. Specifically, Resource Conservation Fees paid by Zone A developers shall be used to purchase, in fee or easement, potential habitat management lands in Zones B, C or D, to enhance those lands, and to manage these areas.
- d) The Conservancy shall also use the fees to fund the creation of habitat, for on-going maintenance and monitoring activities, and to fund staffing of the Conservancy.

Policy 3.2: Wetlands Funding. In addition to the Resource Conservation Fee, landowners impacting wetlands habitat shall separately fund wetlands mitigation needed to offset the impacts caused by their specific development projects. This obligation shall be satisfied dependant on the schedule of subsequently required resource agency approvals and regulatory permits.

Policy 3.3: Grants, Donations and Other Funds. The City, County and Conservancy shall pursue federal, state and local grants, donations and other private sources of funding to fund acquisition, enhancement and management of potential habitat management lands.

PROGRAMS AND IMPLEMENTATION STRATEGIES

Program 3A: Landowner Dedications. Landowners in Zone A will be encouraged to dedicate in fee title or easement any conservation lands such landowners own in Zones B, C and D according to the land acquisition priority specified in Policy 1.3, Priority Acquisition Areas. Through development agreements, such landowners in Zone A shall be permitted to reduce their Resource Conservation Fees in an amount equal to the value of the property interest being dedicated in Zones B, C or D.

GOAL 4: Protect, Restore and Create Major Riparian Corridors

Policy 4.1: Cayetano Creek Restoration. Restore approximately 25 acres of new riparian habitat along the upper and lower reaches of Cayetano Creek. Approximately 8.5 acres of this new habitat constitutes U.S. Army Corps of Engineers jurisdictional area.

Policy 4.2: Cayetano Creek Setbacks. Development shall be set back from Cayetano Creek to provide an average 250-foot wide corridor as shown in the land use plan and in cross-sections (see Figures 3 and 4). Setbacks shall be increased in the lower reaches of the Cayetano Creek from the oxbow bend to Arroyo Las Positas and the stream zones of Arroyo Las Positas and the Altamont Creek where habitat values are higher as shown on the land use map and in cross sections.

Policy 4.3: East Creek Creation. Create a new creek corridor, East Creek, to convey urban runoff, establish limited habitat values, and implement National Pollutant discharge Elimination System (NPDES) requirements, while maintaining existing hydrologic flows to the Bird's Beak / Alkali Sink Reserve.

PROGRAMS AND IMPLEMENTATION STRATEGIES

Program 4A: Cayetano Creek Restoration. The Cayetano Creek Restoration Plan shown on Figures 3 and 4 and described in the RCP Management Practices Handbook, prescribes measures to maintain and/or enhance the wildlife habitat value along designated portions of Cayetano Creek. The plan provides for an average 250-foot wide corridor that will be set aside along the entire length of Cayetano Creek within the Plan Area. Portions of this stream corridor will be utilized for mitigation. A total of approximately 25 acres of new riparian habitat will be established on upper and lower Cayetano Creek.

- a) Lower Cayetano Creek Restoration. The Restoration Plan provides for the establishment of 5 acres of new riparian habitat within the existing bed and banks of the lowest 2,100 linear feet of Cayetano Creek. Approximately 5,300 linear feet above this location would be preserved in its natural condition.
- b) Upper Cayetano Creek Restoration. The Restoration Plan provides for restoration of approximately 10,400 linear feet of the upper reach of the creek.

Program 4B: East Creek Plan. The East Creek Plan as described in detail in the RCP Management Practices Handbook prescribes an approach to creating a new creek in the eastern portion of Zone A to convey increased urban flows and provide opportunities for new riparian habitat.

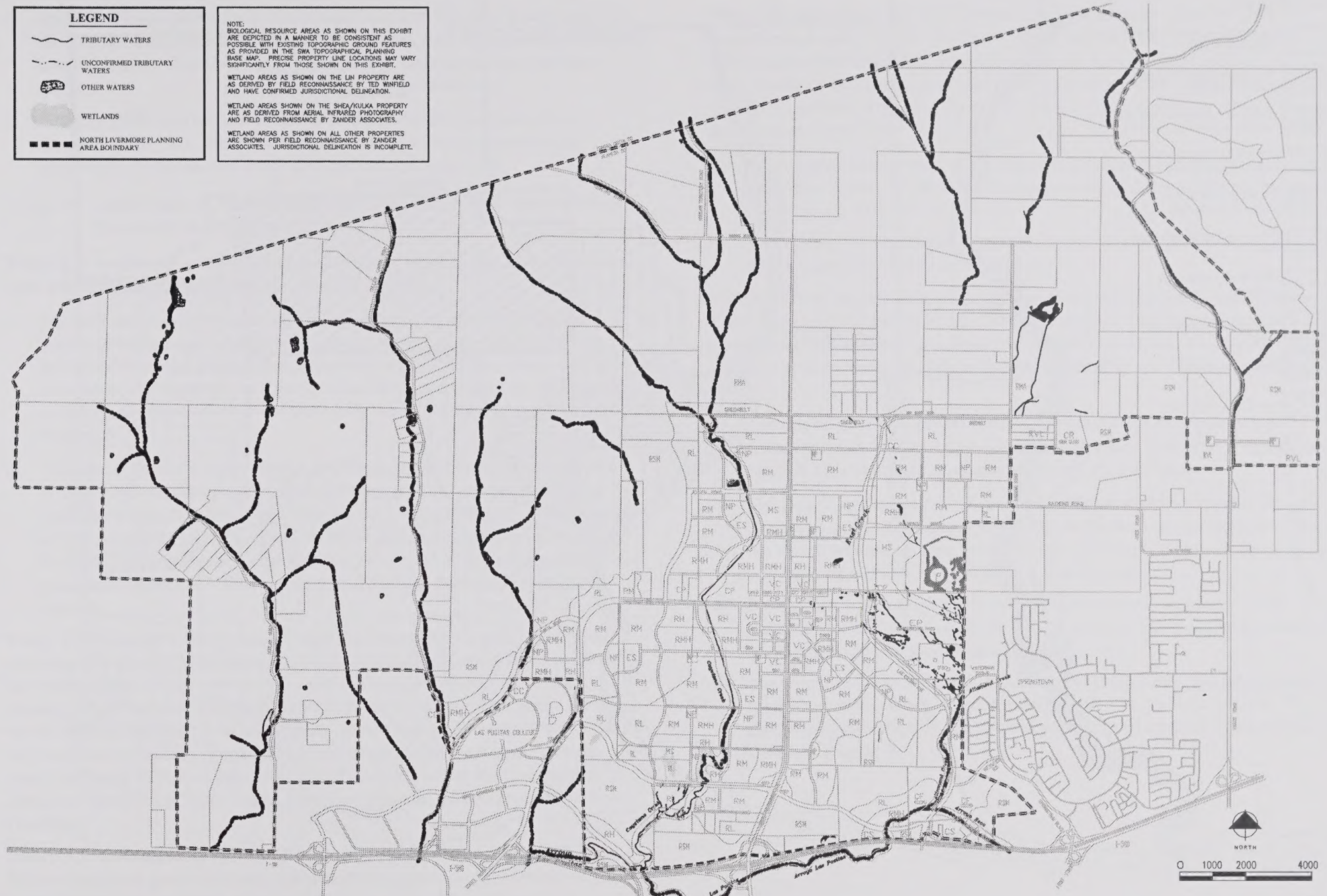


FIGURE 5: WETLANDS AND RIPARIAN HABITAT AREAS

LEGEND

-  Proposed Seasonal Wetland Mitigation Areas
-  Proposed Upper Cayetano Creek Restoration
-  Reach of Cayetano Creek to Remain in Existing Condition
-  Proposed Lower Cayetano Creek Restoration
-  Proposed East Creek Channel Restoration
-  EMAX Springtown Mitigation Bank
-  Birds Beak / Alkali Sink Reserve
-  FCC (Traded Properties)
-  Environmental Park
-  City of Livermore Site

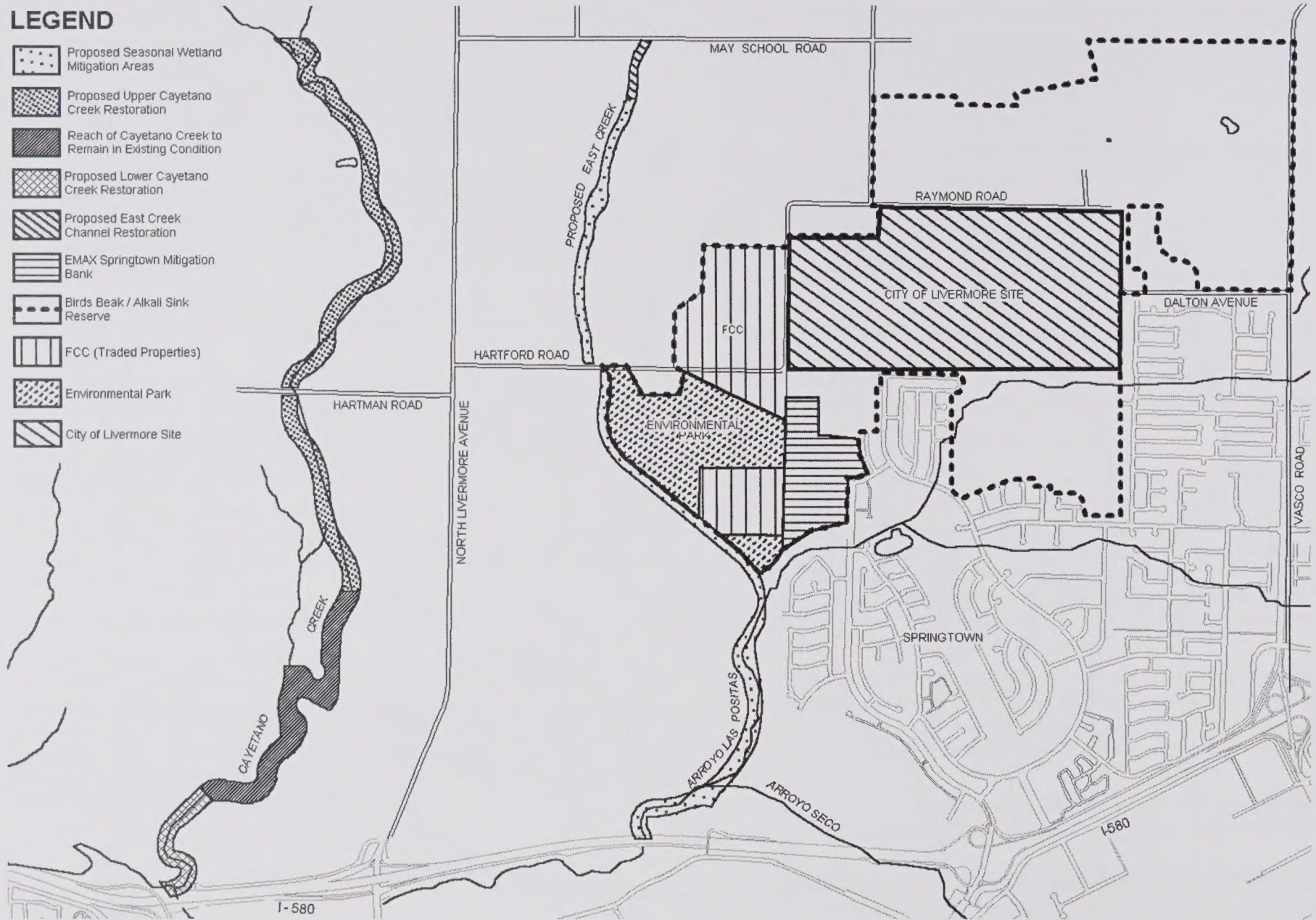


FIGURE 6: SEASONAL WETLANDS AND RIPARIAN MITIGATION SITES

- a) Setbacks. Development shall be set back from East Creek in accordance with the land use plan and cross-sections. No setbacks shall be required along the lower section of East Creek that is designed to provide treatment of water quality.
- b) Culverting Portions of East Creek. Where East Creek is adjacent to the Environmental Park, flows shall be placed in pipes to maintain current hydrologic conditions and avoid wetland impacts in the area.

GOAL 5: Avoid Impacts to Wetlands, Riparian Habitat and Special Status Species to the Maximum Extent Feasible

Policy 5.1: Avoidance and Restoration. Wetlands, riparian corridors, ponds and other features to be protected are identified on Figure 5.

- a) The land use plan for Zone A has allocated land uses to avoid wetlands, riparian corridors and special status species habitat to the maximum extent feasible. Where impacts to habitat have not been avoided, implementation of restoration, enhancement, and transplantation measures shall be undertaken, as described below and in accordance with the RCP Management Practices Handbook.
- b) All Zone B density bonus program development applications must provide evidence that the area proposed for development has been surveyed by a qualified biologist to locate any jurisdictional wetlands and any potential plant or animal species of concern, and that the development plan avoids such wetlands, and a mitigation plan has been developed to protect any sensitive or unique environmental characteristics such as riparian areas or species of concern.

Policy 5.2: Wetlands. Where loss of wetlands cannot be completely avoided, project applicants shall be required to provide mitigation consisting of the creation and enhancement of new wetlands to ensure there is no net loss of wetland acreage or habitat value in order to achieve the RCP conservation goals. Based on the current plan-level impacts assessment, approximately 34 acres of new seasonal wetlands habitat shall be created within protected habitat management lands identified in the RCP for implementation of this measure by the Conservancy as shown in Figure 6 and Table 3, and described in the RCP Management Practices Handbook.

Policy 5.3: Management of New Habitat by Specific Development Projects. Where there is no practicable alternative to development on lands possessing high habitat value (e.g., wetlands and riparian areas), new habitat created by or on behalf of landowners shall be located in designated areas and managed by the Conservancy as habitat management lands.

Policy 5.4: Riparian. The land use plan for Zone A has allocated land uses to avoid riparian habitat to the maximum extent feasible. Where loss of riparian habitat cannot be completely avoided, mitigation for the loss of such resources shall consist of the creation and enhancement of new riparian habitat to ensure there is no net loss of riparian acreage or habitat value in order to achieve the RCP conservation goals.

- a) New riparian habitat shall be created within potential habitat management lands identified in the RCP for implementation of this measure by the Conservancy, as shown in Figure 6.
- b) New riparian habitat shall be maintained and restored in accordance with the RCP Management Practices Handbook.

Policy 5.5: Reclaimed Water Storage Reservoir Mitigation Requirements. Construction of the reclaimed water storage reservoir within Zones B and D would result in the loss of grassland and wetland habitat, and the potential loss of sensitive species including California tiger salamander and California red legged frog.

- a) The loss of grassland habitat shall be mitigated through acquisition of conservation easements or fee title to an equivalent amount (1:1 replacement ratio) of grassland habitat off-site but within the Plan Area.
- b) The loss of approximately 1.8 acres of wetlands shall be mitigated through the creation of and enhancement of new wetlands to ensure that there is no net loss of wetland acreage or habitat value. Impacts to jurisdictional areas will be mitigated at a 2:1 (mitigation : impact) ratio.
- c) Pre-construction surveys for burrowing owls shall be performed at the reclaimed water storage reservoir site 30 days prior to the scheduled onset of grading activities at each specific project site.
- d) Impacts to sensitive species (California tiger salamander, red legged frogs, burrowing owls), should they be found to occur at this location, shall be mitigated consistent with the detailed provisions of the RCP Management Practices Handbook.

PROGRAMS AND IMPLEMENTATION STRATEGIES

Program 5A: Pre-Construction Surveys. Pre-construction surveys will be conducted by project applicants in development areas within Zone A and in density bonus building envelopes in Zone B to determine the presence of special status species. Certain special status animal species (i.e., burrowing owl and California tiger salamander) will be relocated. These relocations will be to suitable locations within the acquired habitat management lands, subsequent to obtaining any needed Resource Agency approvals, and in accordance with the habitat management measures specified in the RCP Management Practices Handbook.

- a) Burrowing owls will be relocated using passive relocation.
- b) California tiger salamanders will be relocated using active relocation, or movement barriers will be installed.
- c) Pre-construction surveys for the San Joaquin kit fox will be conducted, and standardized kit fox construction practices will be employed as outlined in the RCP Management Practices Handbook. If an active kit fox den is detected within or adjacent to the area of work, the U.S. Fish and Wildlife Service shall be contacted immediately to determine the best course of action.

Program 5B: Wetlands Mitigation. Where project applicants are required to provide mitigation consisting of the creation and enhancement of new wetlands to ensure there is no net loss of wetland acreage or habitat value, the project applicant's mitigation plan and the firm selected by the applicant to implement the mitigation plan shall be subject to the approval of the appropriate jurisdictional agencies in consultation with the City and the County.

- a) Project applicants shall provide sufficient funding (in addition to the Resource Conservation Fee and the actual cost of wetland creation/enhancement) for monitoring of the replacement habitat by the Conservancy for a minimum of 5 years.
- b) All modifications to wetlands or other waters (including the filling of drainage swales, seasonal wetlands, creek crossings, etc.) shall be coordinated with California Department of Fish and Game, the U.S. Army Corps of Engineers, and the Regional Water Quality Control Board to the extent required by state and federal law to ensure that all mitigation requirements and any design modifications are incorporated into individual development projects.

GOAL 6: Coordinate With Other Agencies Which Share Mutual Responsibilities for the North Livermore Resource Conservation Program and With Related Regional Efforts for Regional Conservation Planning

Policy 6.1: Federal Permits. The City and County shall coordinate with landowners, the U.S. Army Corps of Engineers, the U.S. Fish and Wildlife Service, and the Regional Water Quality Control Board in securing required permits for regulated disturbances to wetlands and other waters of the U.S. and associated protected species (see also Chapter 6 of this RCP).

Policy 6.2: State Permits. The City and County shall coordinate with landowners and the California Department of Fish and Game to obtain Streambed Alteration Agreements and Incidental Take Permits for regulated disturbances to streambeds and associated protected species (also see Chapter 6 of this RCP).

Policy 6.3: Permitting Program. Landowners shall be responsible for filing, either separately or jointly with the City or County, applications for federal, state, and regional permits, approvals, and authorizations necessary to commence development.

GOAL 7: Permanently Protect the Scenic and Resource Values of the Hills Visible From I-580 (the Zone C/I-580 Hills)

Policy 7.1: I-580 Hill Protection. Encourage landowners to dedicate the Zone C/I-580 Hills lands (see Figure 7) for open space through fee dedication or conservation easements to permanently protect scenic and resource values and to provide trails.

Policy 7.2: Trails and Habitat Protection in the I-580 Hills. Require developers of Zone A properties that extend into the I-580 Hills in Zone C to incorporate trails shown on Figure 7 (see Volume II) into their project designs. Encourage developers to implement trail improvements at the time adjacent urban land is developed as an offset against project park fees. Trail improvements may consist of pedestrian trails, occasional seating areas and appropriate informal tree plantings.

Policy 7.3: Special Status Species Protection. The I-580 Hills contain ponds that are known to, or suspected of supporting breeding California tiger salamanders. To the extent feasible, those ponds and adjoining suitable grassland habitat shall be protected.

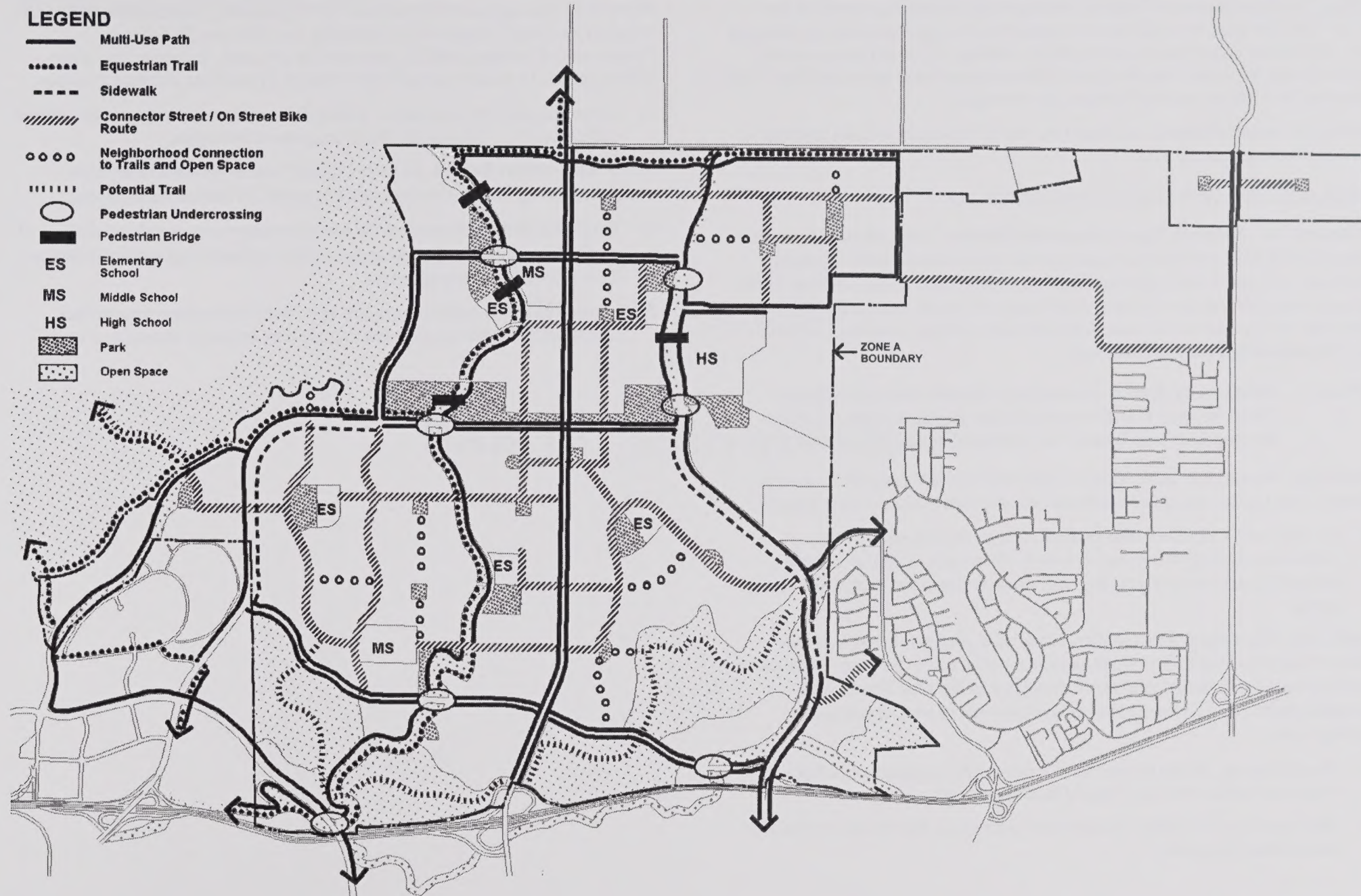


FIGURE 7: ZONE C / I-580 HILLS

Policy 7.4: Management of Habitat Management Lands. Lands within the I-580 Hills that are acquired in fee or easement for management shall be managed in a manner that contributes to the long-term viability of special status species and enhances the value of multi-species habitat management lands consistent with Program 2B: General Habitat Management Strategies.

Policy 7.5: Scenic Policies. Implement the Scenic Resource policies set forth in Volume II of the Specific Plan.

PROGRAMS AND IMPLEMENTATION STRATEGIES

Program 7A: California Tiger Salamander Habitat. The land use plan for the Zone C I-580 Hills protects the breeding pools and extensive lands adjoining those pools. Where Zone A development is located in the vicinity of those pools, a tiger salamander barrier will be erected to help direct the salamanders away from the development as they search for estivation habitat, consistent with the RCP Management Practices Handbook.

GOAL 8: Permanently Protect Open Space, Habitat and Agricultural Values in Zone B to Serve as a Buffer Between Zone A Urban Development and Zones C & D Habitat Management Lands

Policy 8.1: Natural Resource Values. Permitted rural and agricultural uses in Zone B shall protect and enhance natural resource values to the extent feasible.

- a) A Cayetano Creek restoration program will be implemented by the Conservancy along the western tributary of Cayetano Creek as it passes through Zone B to the extent that restoration is consistent with water storage needs.

Policy 8.2: May School Road Buffer. Establish a greenbelt buffer between Zones A and B at May School Road as shown on the Land Use Plan. Funds or property required to ensure permanent protection of the May School Road greenbelt buffer shall be secured in conjunction with Phase I development through either;

- a) The dedication, via the provisions of a development agreement, of property within the buffer owned by Phase I landowners, or
- b) The commitment of Phase I Resource Conservation fees for the purchase of lands within the buffer.

Policy 8.3: Management of Conservation Easements. Conservation easements based on the Model Conservation Easement (see Program 2A: Model Conservation Easement) shall be individually designed, in cooperation with willing sellers, to ensure compatibility between agricultural and habitat values.

- a) Easements shall be designed to further the management strategies as defined in Program 2.C: General Habitat Management Strategies.

Policy 8.4: Habitat Buffers. Establish habitat buffers between those areas designated for agricultural use and lands acquired for habitat management.

- a) The buffer shall be located on the habitat management parcel and shall be of a sufficient size to adequately separate more intensive agricultural practices from habitat protection practices.
- b) Lands within this buffer area might have fewer restrictions than habitat management lands, but more restrictions than intensive agricultural lands.

CHAPTER FIVE:

HABITAT MANAGEMENT

This chapter summarizes the existing biological resources within the Plan Area and provides a specific framework for protecting and managing these resources on a regional level. The management plans and strategies described in the chapter provide mitigation for wetland and other habitat losses and for impacts to special status species that will occur as a result of implementation of the Specific Plan.

5.1 SUMMARY OF BIOLOGICAL RESOURCES

[Note: Numerous surveys and technical reports conducted for Alameda County, Livermore, and private landowners in the Plan Area have documented the biological resources present within the North Livermore Plan Area. The North Livermore Specific Plan Draft EIR Biological Resources Section contains a detailed description of the biological resources, including special status species and habitats, present within the Plan Area boundaries and a summary of the extensive surveys performed for these resources.]

Figure 8 and Table 2 identify the Plan Area's nine biotic habitats and show their distribution. Most of these habitats are found within the 8,740 acres of potential habitat management lands located in Zones C and D. Of this total, only 133 acres are currently developed or disturbed. The remaining approximately 8,607 acres comprise annual grassland (7,472 acres), dryland cultivated (1,085 acres), intermittent drainages (18 acres), riparian woodland (1 acre), perennial aquatic (28 acres), and perennial marsh (3 acres) habitats.

In general, the Plan Area's diverse habitats provide habitat for a number of special status species. Burrowing owls nest and forage in the annual grasslands while alkali grasslands provide habitat for palmate-bracted bird's beak. Channels, ponds and creeks found within the Plan Area provide habitat for California red-legged frogs and western pond turtles, and California tiger salamander and vernal pool fairy shrimp breed within the temporary pools. In addition to these habitat types, the alkali sink habitat located in the Plan Area and in adjacent Springtown has been addressed. Under the RCP, a Bird's Beak/Alkali Sink Reserve will be established that will include the properties shown on Figure 2. Several of these properties, including the City of Livermore property in the Springtown Alkali Sink and the Plan Area's Environmental Park, would be managed as described under Program 2D: Birds' Beak / Alkali Sink Reserve management. The Reserve will be enhanced and protected in perpetuity under a Management Agreement with the California Department of Fish and Game.

In addition to providing habitat for several special status species, the alkali sink and related watershed lands have the potential to serve as an important linkage zone between habitat areas set aside in Zone A and designated open space in Zone D and the I-580 Hills of Zone C.

Table 2: Summary of Habitats Found Within the North Livermore Specific Plan Area, Alameda County, California

Habitat Type	Zone A	Zone B	Zone C&D ¹	Total	Percent of Total
Annual Grassland	1,070	426	7,472	8,968	66
Dryland Cultivated	1,700	1,020	1,085	3,805	28
Alkali Grassland ²	164	0	0	164	<1
Intermittent Drainage	3	4	18	25	<1
Riparian Woodland	2	0	1	3	<1
Perennial Aquatic	20	3	28	51	<1
Perennial Marsh	0	5	3	8	<1
Seasonal Pools and Swales	88	2	0	90	<1
Developed/Disturbed	141	97	133	371	3
TOTAL	3,188	1,557	8,740³	13,485	100

¹ Not all lands in Zone C and D were subject to the same level of survey effort as those in Zones A and B. It is likely that actual acreage of some habitat types in Zones C and D could vary from the acreage shown.

² Approximately 88 acres of seasonal pools and swales occur within the alkali grassland in Zone A and are not counted in this table towards acreage of alkali grassland.

³ Total values may vary due to rounding the numbers.

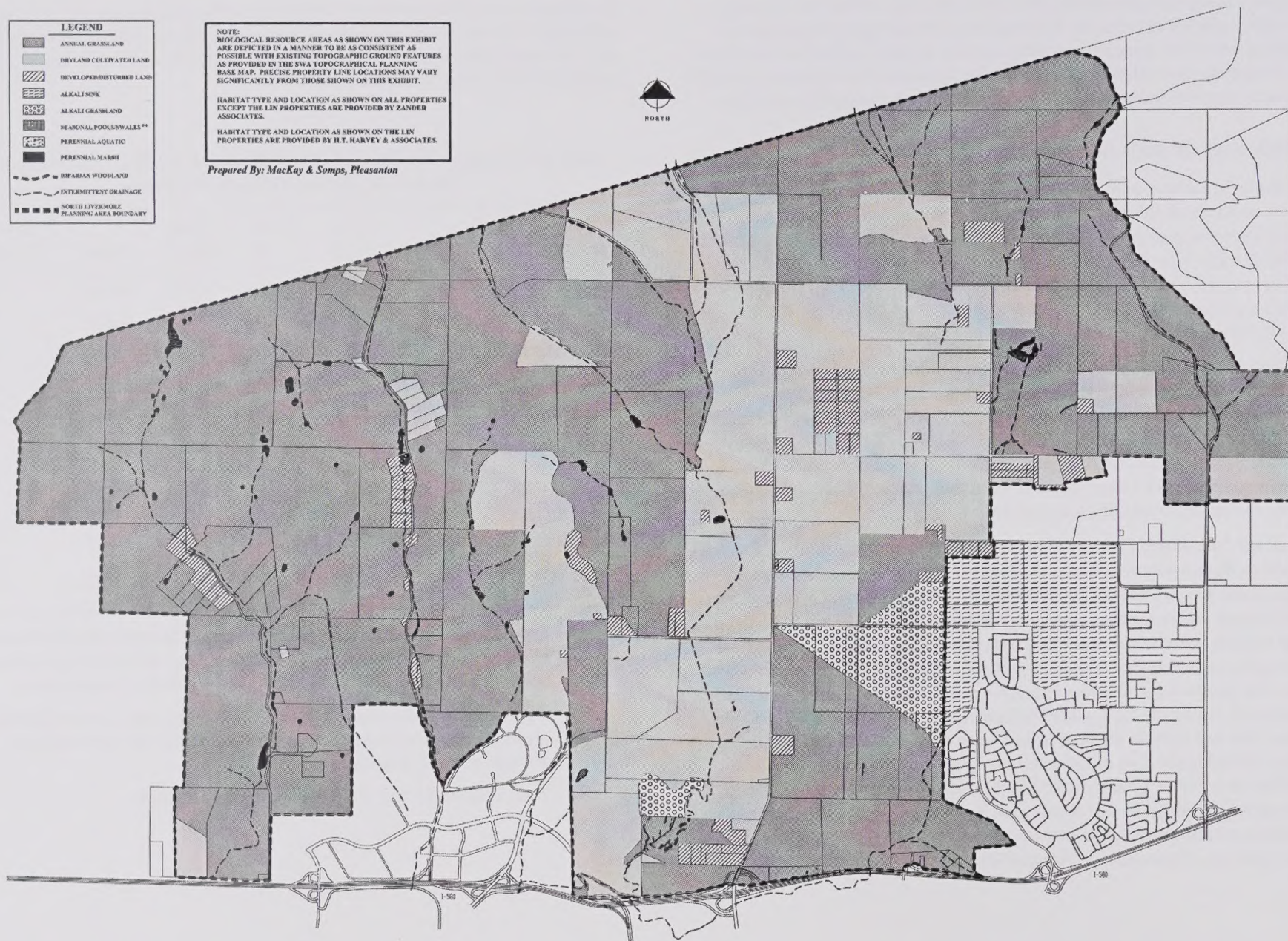


FIGURE 8: BIOTIC HABITATS

There are five watershed basins in the Plan Area. Three of these basins are drained by three of the Plan Area's major creeks: Cottonwood Creek, Collier Canyon Creek and Cayetano Creek. A fourth basin drains into the Springtown area of North Livermore and the fifth basin drains towards Brushy Creek, outside of the Plan Area. Springtown and Brushy Creek eventually drain into Altamont Creek which joins with Arroyo Las Positas and then continues west where it picks up flows from Cayetano, Collier Canyon and Cottonwood creeks, outside of the Plan Area. Flows in Cottonwood, Collier Canyon and Cayetano Creeks support some in-channel emergent wetland vegetation and some limited riparian woodland along the banks. Cayetano Creek has been channelized in its upper reaches (approximately 7,100 linear feet) where it passes through agricultural lands. Much of Altamont Creek and the Arroyo Las Positas through the Plan Area have been improved for flood control purposes resulting in wide, deep and relatively uniform channels.

5.2 BIOTIC HABITATS IN THE PLANNING AREA

Annual Grasslands. Grassland habitats within the Plan Area include annual grasslands, dryland farmed (see below), and alkali grassland habitats (see below). Non-native annual grasslands comprise the dominant plant community of the North Livermore region, and cover approximately 8,900 acres in the Plan Area. Large contiguous areas of this habitat cover the hillsides and drainage canyons of Zones C and D in the western and northeastern sections of the Plan Area. Annual grasslands also occur in the low hills in the southern part of Zone A and a few remnant patches in the valley lands of Zones A and B.

Dryland Cultivated. Dryland cultivated fields comprise approximately 3,812 acres of the Plan Area. These cultivated areas cover most of the flat lowlands in Zones A and B, and some of the more gradually sloping areas of Zones C and D. Dryland farming is the primary agricultural practice in the North Livermore Valley due to the limited supply of suitable irrigation water and the high clay content in the soil.

Alkali Grassland. Alkali grassland is part of the cover of two distinct sites within the Plan Area. One of the sites covers approximately 250 acres south and north of Hartford Road and east of North Livermore Avenue; the second site, approximately 50 acres in size, is adjacent to Cayetano Creek. Although non-native annual grasses are abundant in this habitat, this grassland community differs from the annual grasslands in the Plan Area because it also contains areas where saline-tolerant species such as salt grass, alkali weed, and alkali heath dominate.

Intermittent Drainages. Several drainages in the Plan Area are tributaries to the major creeks. In Zones A and B, many of these seasonal drainages are found along Cayetano Creek and Arroyo Las Positas, and east of Dagnino Road below a perennial stock pond. Most of these channels only carry flows during storm events and therefore do not have sufficient water to support riparian or wetland vegetation. Some are swales lacking a defined bed and bank that only occasionally carry water. Consequently, these channels are typically vegetated with the same species that occur in the adjacent annual grasslands. Drainages that are significantly wetter for a longer duration support wetland species.

Riparian Woodland Habitat. Riparian woodland habitat is limited in the Plan Area. Approximately 1.8 acres of mixed willow riparian woodland with a relatively dense canopy of arroyo willow and red willow are located along the lower reaches of Cayetano Creek. The tree canopy varies in terms of density and quality along the remaining reaches of this creek. An additional 1.2 acres are found on the tributaries to Cayetano Creek and on the lower reaches of Cottonwood Creek.

Perennial Aquatic and Marsh. Perennial aquatic habitat in the Plan Area includes isolated ponds (usually stock ponds), in-channel pools and ponds (usually man-made), drainage channels, Arroyo Las Positas, and Cayetano Creek (Figure 6). The isolated ponds are filled only where there is a spring or some other source of water that can supply the area year-round. Most of the ponds are man-made and probably used for livestock grazing. There is only one isolated perennial pond in Zone A and one in Zone B. Zones C and D contain approximately 12 isolated perennial ponds that are primarily associated with Cayetano, Collier Canyon and Cottonwood Creeks and their tributaries. Collier Canyon Creek and Cottonwood Creek both contain in-channel ponds and/or emergent marshes that occur upstream of small man-made dams or berms. The entire length of Arroyo Las Positas within the Plan Area is classified as perennial aquatic habitat.

There are two perennial marshes in the Plan Area. One is a freshwater marsh associated with the lower reaches of Cottonwood Creek in Zone C and the other is a 4-acre alkaline marsh located immediately north of the stock pond in Zone B.

Seasonal Pools and Swales. Seasonal pools and swales occur primarily on the valley floor in Zones A and B of the Plan Area, in topographic depressions underlain by dense clay soils. The largest contiguous complex of seasonal pools and swales occurs in the alkali grassland habitat south of Hartford Road and east of North Livermore Avenue. Approximately 13 acres of seasonal pool habitat have been identified in this area. Although most of these pools and swales contain grassland vegetation similar to the upland areas, some support typical seasonal pool plants.

A fairly deep, seasonal swale that directs surface runoff into the alkali grassland via a culvert under Hartford Road runs through the FCC property and onto the adjacent parcel to the west. Areas of seasonal pools totaling about three acres are found on dryland farmed areas outside of the top-of-bank near the lower reaches of Cayetano Creek.

Three relatively large seasonal pools are situated in the hills at the points along the boundary of Zones A and C in the southern portion of the Plan Area. One of these pools is located about 1/2 mile west of the lower reaches of Cayetano Creek. The second pond is located in the hills south of the alkali grassland, approximately 1/2 mile east of North Livermore Avenue. There is also a third seasonal pool in the I-580 Hills of Zone C about 1/4 mile east of North Livermore Avenue (see Figure 9).

Alkali Sink. The Alkali Sink is a unique community type that includes alkali grassland and seasonal pool and swale habitats. Because of its specific soil and hydrologic characteristics, it supports several endemic plant and animal species. It encompasses approximately 480 acres in the area referred to as the Bird's Beak / Alkali Sink Reserve immediately adjacent to the Plan Area and additional acreage within the Plan Area in the location of the Environmental Park and FCC property. See Figure 2. As shown on Figure 2, this area is proposed to be established as the Bird's Beak/Alkali Sink Reserve with the properties proposed to be managed under the RCP.

Special Status Species. This section of the RCP summarizes the biology, occurrence and distribution of special status species known to occur in the Plan Area. Extensive surveys were conducted within the Plan Area, and the California Natural Diversity Data Base (CNDDB) records for Alameda County (1997) and other sources were reviewed to determine the presence of special status species and their habitats within the Plan Area. The Draft EIR Biological Resource Section includes a list of all special status species known to occur in the Plan Area and a list of recent site-specific surveys for special status species in the Plan Area. (The kit fox is also discussed in this Section although there have been no confirmed sightings within the Plan Area.)

Palmate-bracted Bird's Beak. Palmate-bracted bird's beak (*Cordylanthus palmatus*) is a federally- and state-listed endangered plant species. Five known remaining populations of this species occur in the Central Valley and Livermore Valley of California. (Stanford University Center for Conservation Biology, 1992). Palmate-bracted bird's beak occurs in lowlands on saline/alkaline soils with seasonal flooding, including sink scrub habitats, alkali grasslands, and alkali scalds. It is often found with other halophytes, such as iodine bush, alkali weed, and salt grass. In the Springtown area, this species is also associated with saltbush (*Atriplex* spp.), tarweed, tarplant (*Holocarpha obconica*), and a variety of spring-flowering annuals (Coats et al. 1988).

The Springtown Alkali Sink, located immediately east of Zone A, supports one of the largest existing populations of palmate-bracted bird's beak, with recorded population sizes ranging from 7,400 to 24,300 individuals (see Figure 10). A robust population of palmate-bracted bird's beak was also identified in the Plan Area in the alkali grasslands south of Hartford Road during surveys conducted from 1990 to 1996 (Zander Associates 1998). Nearly all of the population of this species in Zone A occurs approximately 0.25 miles west from the Springtown boundary and 0.5 miles south of Hartford Road in the area designated as Environmental Park under the Land Use Plan. A small area also extends north of Hartford Road on the FCC property.

Vernal Pool Fairy Shrimp. Vernal pool fairy shrimp (*Branchinecta lynchi*) is a federally-listed threatened species. This species is one of several species of fairy shrimp that are primarily found in California and are currently listed as threatened or endangered, primarily because of the loss of vernal pools and other ephemeral freshwater habitats. Vernal pool fairy shrimp occur throughout the eastern coastal foothills from Tehama County to Riverside County, California and near Medford, Oregon.

Within the Plan Area, vernal pool fairy shrimp have been identified in several ephemeral pools and swales in the alkali grassland area in the eastern section of Zone A, south of Hartford Road in the area designated as Environmental Park under the Land Use Plan (see Figure 11). Wet-season surveys conducted in 1996 and 1997 identified this species in 10 pools and 4 swales in two clusters in this area (Monk & Associates 1997). The first cluster, located within approximately 300 feet of the eastern (Springtown) boundary and within 900 feet of Hartford Road, contains 5 pools in which vernal pool fairy shrimp were found. The second cluster, located approximately one-half mile west of Springtown and within 700 feet of Hartford Road, contains 5 pools and 4 swales supporting this species.



FIGURE 9: VERNAL POOL LOCATIONS



FIGURE 10: SPECIAL STATUS PLANT SPECIES

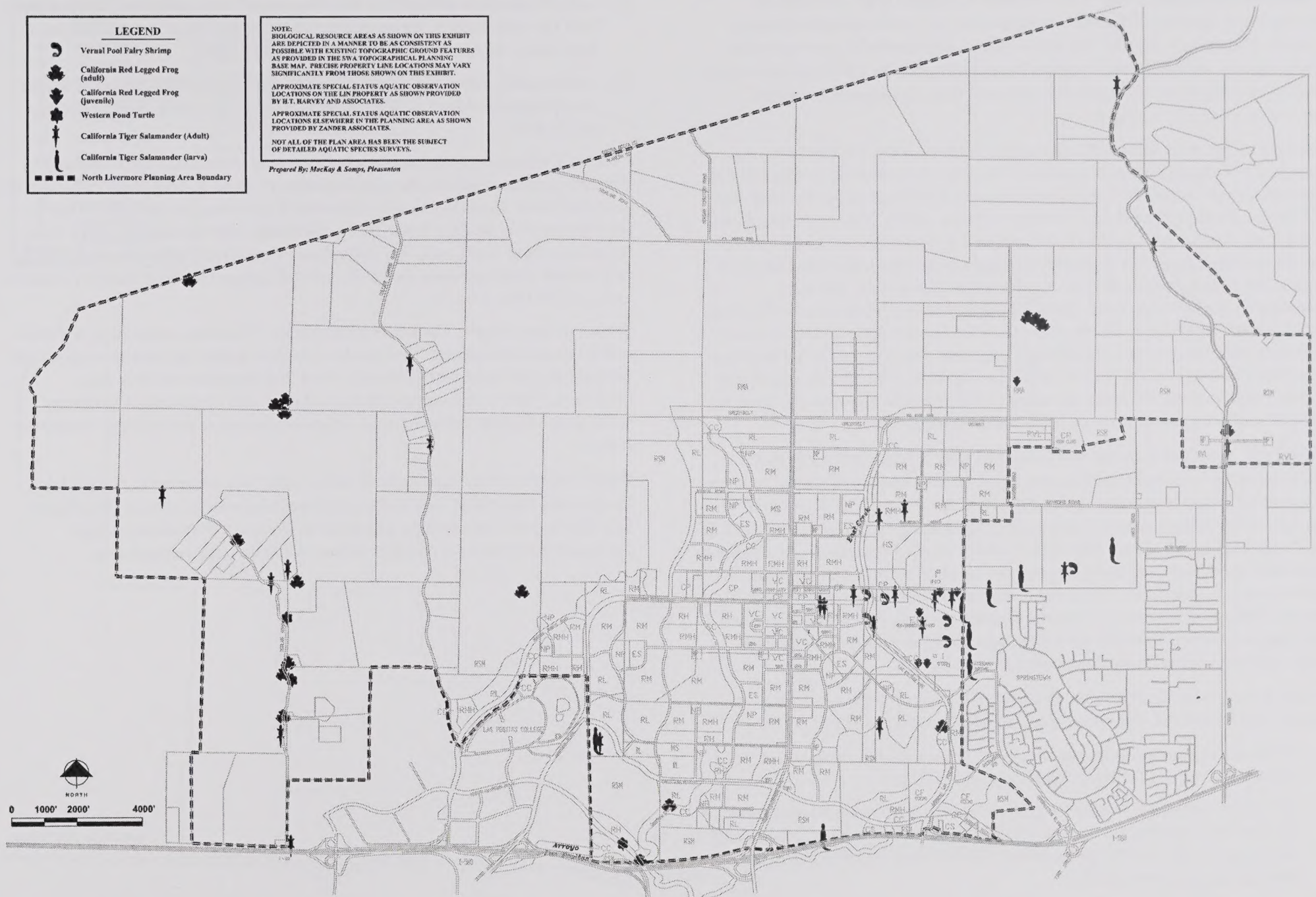


FIGURE 11: SPECIAL STATUS AQUATIC SPECIES

California Red-legged Frog. The California red-legged frog (*Rana aurora draytonii*) is a federally-listed threatened species and a state species of special concern. The current range of this subspecies extends coastally from northern Marin County southward into northern Baja California. The California red-legged frog is generally found in riparian habitats with deep, quiet pools and dense riparian or emergent vegetation.

This species has been identified in Altamont Creek near the southeastern boundary of Zone A (Zander Associates 1998), near the perennial stock pond and adjacent spring complex in Zone B, and associated with a seasonal drainage east of Dagnino Road in Zone B (H.T. Harvey & Assoc. 1997). It has also been found in the lower reaches of Cayetano Creek and in the adjoining sections of Arroyo Las Positas (see Figure 11). Juvenile red-legged frogs were also identified in pit traps in the eastern section of Zone A, adjacent to Springtown, and were presumed to be dispersing from Altamont Creek (Monk & Associates 1997). The California red-legged frog has also been identified in several locations in Zone D, such as in the Cottonwood Creek drainage (Doolan Canyon), and in a tributary of Altamont Creek adjacent to Vasco Road. It is also likely that the red-legged frog occurs in many of the drainages as well as in the perennial and seasonal pools in Zones C and D that have not been subjected to specific surveys.

California Tiger Salamander. The California tiger salamander (*Ambystoma californiense*) is a federal candidate species and a state species of special concern. This species' range historically covered much of the Central Valley, from the San Joaquin Valley to the southern Sacramento Valley, as well as the lower foothills of the Coast Ranges and eastern side of the Central Valley. Populations of California tiger salamander have declined primarily as a result of agriculture and urban development, introductions of non-native aquatic predators and other human impacts. This species generally inhabits seasonal pools in annual grasslands and open oak woodlands. Breeding habitat must be adjacent to uplands supporting small mammal burrows, which provide estivation habitat.

Recent field surveys confirmed the presence of California tiger salamanders at several locations in and adjacent to the Plan Area (see Figure 11):

- a) California tiger salamander larvae have been identified in a large stock pond on the southern edge of the I-580 Hills of Zone C, and
- b) Adult tiger salamanders were also found near the large seasonal pool south of the alkali grassland in the northern portion of the I-580 Hills of Zone C. The placement of drift fencing around this pool may have prevented breeding there during the survey periods.

- c) Larval tiger salamanders have also been found in an ephemeral claypan pool near the northwestern portion of the I-580 Hills of Zone C and adults have been observed nearby (H.T. Harvey & Assoc., 1997).
- d) Additionally, larvae and adults have been identified in several pools within the Springtown Alkali Sink adjacent to the Plan Area (Stanford University CCB 1993).

California tiger salamander adults were identified in the alkali grassland and adjacent grassland areas in the eastern portion of Zone A, both south and north of Hartford Road. These adults were presumed to have bred in Springtown but to have estivated in the Plan Area. Lastly, California tiger salamanders have been found in several locations in the Cottonwood Creek and Collier Creek drainages, and in three locations along the creek corridor adjacent to Vasco Road in Zones C and D of the Plan Area.

Western Pond Turtle. The western pond turtle (*Clemmys marmorata*) is a state species of special concern. This species occurs in aquatic habitats throughout the coastal hills and valleys of California, from San Francisco south to Baja California. Pond turtles occupy aquatic habitats with permanent or persistent water such as ponds, lakes, streams, irrigation ditches or pools along intermittent streams.

Within the Plan Area, western pond turtles have been observed in Arroyo Las Positas near Cayetano Creek in the southwestern corner of Zone A (see Figure 11). This species has also been identified in the lower Cottonwood Creek drainage where the creek corridor widens to form a large wetland area.

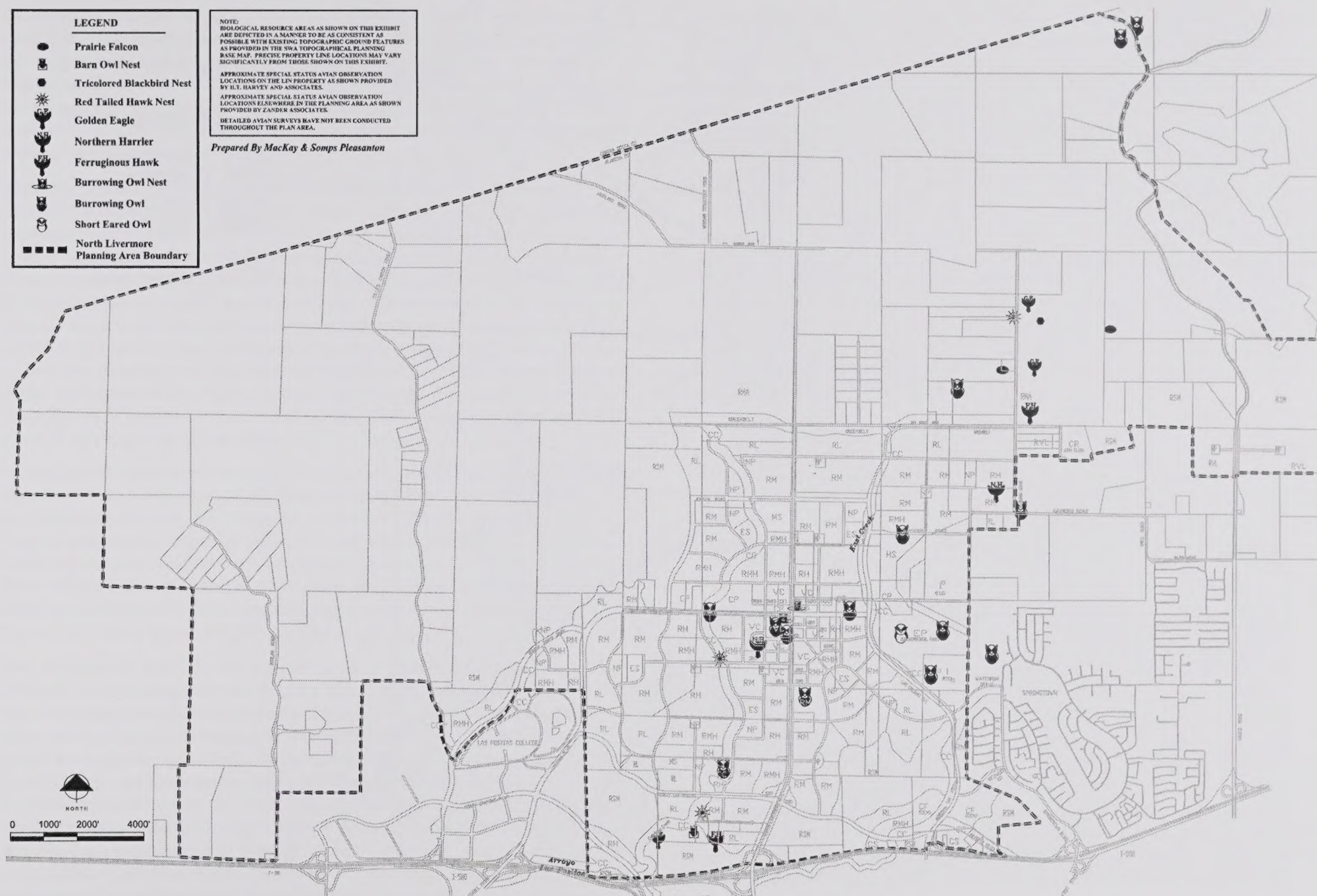


FIGURE 12: SPECIAL STATUS AVIAN SPECIES

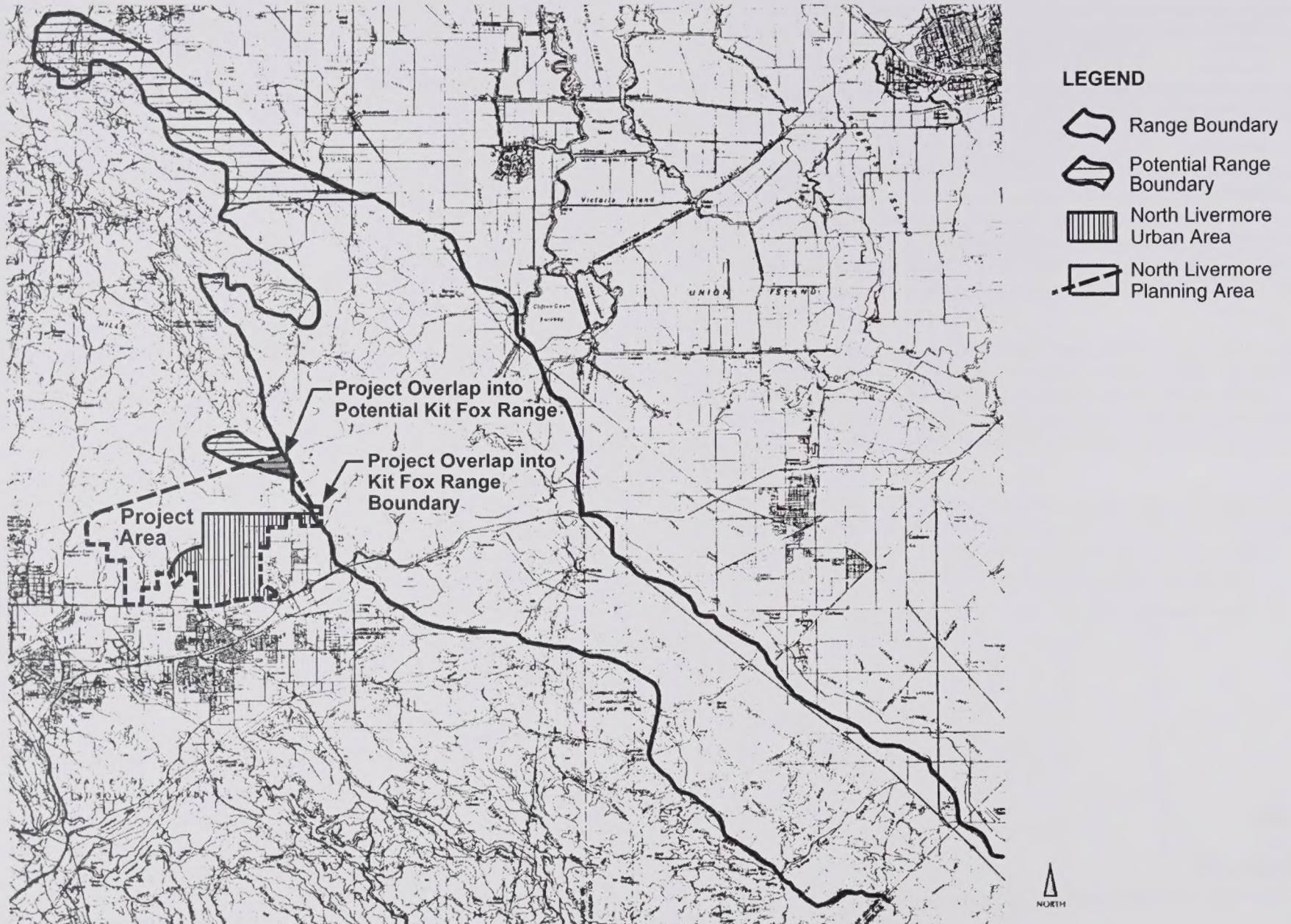


FIGURE 13: SAN JOAQUIN KIT FOX RANGE BOUNDARY

Burrowing Owl. The burrowing owl (*Athene cunicularia*) is a state species of special concern. A year-round resident of open, dry grassland and desert habitats, the range for this species extends throughout much of California. The primary habitat for this species includes annual and perennial grasslands, deserts, and arid scrublands with low-growing vegetation. Open vegetation communities and the availability of small mammal burrows are essential components of burrowing owl habitat.

Burrowing owls have been identified at several locations in the Plan Area, primarily in expansive flat areas in the North Livermore Valley that contain large concentrations of ground squirrels. In Zone A, burrowing owls were observed in several locations on the flat lands north and south of Hartford Road and east of North Livermore Avenue, and on the existing FCC property. (Zander Associates, 1998.) High ground squirrel activity and numerous burrows were also identified in these areas. Burrowing owls were also observed breeding in an area just west of North Livermore Avenue and south of Hartman Road in 1992. In Zone B, the species was observed in a field north of May School Road and west of Dagnino Road, and additional potential habitat was identified in the eastern section of Zone B, east of Dagnino Road. Two sightings of burrowing owls were reported in Zone D near Vasco Road (see Figure 12).

Other special status plant species. Several special status plant species have been identified in the Springtown Alkali Sink outside the Plan Area. These species include heartscale (*Atriplex cordulata*), brittlescale (*Atriplex depressa*), San Joaquin spearscale (*Atriplex joaquiniana*), and Hispid bird's beak (*Cordylanthus mollis* ssp. *hispidus*). All of these species are included on the California Native Plant Society's (CNPS) List 1B. All of these species occur in alkaline soils. In addition, stinkbells (*Fritillaria agrestis*), listed as CNPS 4, were observed in Zone B, east of Dagnino Road, in 1992 (see Figure 10).

San Joaquin Kit Fox. The San Joaquin kit fox (*Vulpes macrotis mutica*) is a federally-listed endangered species and a state-listed threatened species. The kit fox once ranged widely throughout the Central Valley, but has been displaced from much of its original range due to habitat losses related to agriculture and urban development. Its northern range currently extends to southeastern Contra Costa County and northeastern Alameda County. As shown on Figure 13, the northeastern-most edge of the Project Area is shown to be within the mapped northerly range of the kit fox (H.T. Harvey & Associates 1997). This portion of the Plan Area is designated as Zone D, an area that is not proposed for urbanization. Land uses within Zone D are to be retained in large parcel agricultural use, with potential habitat lands in this area targeted for acquisition (in fee title and/or conservation easements) by the Conservancy using Resource

Conservation Fees. As also shown on Figure 14, the very easternmost portion of the Plan's Urban Area, an area designated for low density residential use, is located within the kit fox's potential range. The potential range denotes an area where potential shifts to the range boundaries may be appropriate based on previous sightings in this general area, but may also be areas that support populations or individual animals outside of their normal range and habitat. Further research and study is needed before this area should be considered as part of the kit fox's northerly range.

In Alameda and Contra Costa Counties, kit foxes have been sighted in the hills to the north and east of the Plan Area. For example, kit foxes were sited in the hills east of Vasco Road near Laughlin Road, northwest of Altamont Pass and east of Frick Lake (H.T. Harvey & Assoc. 1996). Reported occurrences increase to the north and east of this area. In addition, a kit fox has been observed north of the Plan Area along Morgan Territory Road in Contra Costa County (H.T. Harvey & Assoc. 1996). There are no confirmed sightings of the kit fox within the Plan Area however, despite extensive focused surveys for this species throughout North Livermore.

Unless kit foxes begin to occupy habitat within the Plan Area, it is unlikely that development within the Plan Area will directly affect the species by disturbing occupied habitat. Indirect effects, if any, from additional human access to the hillsides will be minimal. However, because this Program is intended to conserve grassland habitat with characteristics similar to those of occupied kit fox habitat, the RCP will accommodate opportunities for the kit fox to expand into and recover within the Plan Area.

5.3 HABITAT MANAGEMENT, SUMMARY OF APPROACH

The goals and policies set forth in Chapter Four of this document call for the protection and enhancement of potential habitat management lands that could support special status species. In some cases, this may be accomplished by acquiring the land (from willing sellers) in fee title and affording complete protection. However, to a large extent these goals can be accomplished by the acquisition of conservation easements (from willing sellers) that restrict uses that are inconsistent with habitat conservation but still support continued agricultural use. In much of the grassland areas, the most notable restricted uses would be excessive grazing, the unlimited use of rodenticides, and the unnecessary removal of vegetation. Management plans may call for the protection of (e.g. fencing) and enhancement of (e.g. planting) stream corridors and wetland areas if wetland, riparian, or aquatic habitat is located on the property under easement. Habitat

management may also occur under purchase lease-back arrangements. Site-specific management plans will be developed for all fee title or easement acquisitions and will respond to the particular habitat values of the site in question and to the agricultural interests of the property owner. (See the sample exhibits at the back of the RCP consisting of a Land Management and Enhancement Plan, a List of Uses and Practices Inconsistent with a Conservation Easement, and a List of Uses and Practices Consistent with a Conservation Easement.)

In general, existing habitat values for grassland-associated wildlife species are moderate. Grazing and dryland cultivation, along with their associated management practices, have reduced the wildlife habitat values over time. Small mammal populations, notably ground squirrel populations, are low. Other burrowing mammals' (e.g. voles and gophers) populations are also comparatively low. These small mammals form a fundamental basis of the overall species diversity of a region. They provide prey for hawks, eagles, foxes and coyotes and dwellings for tiger salamanders and a variety of snakes and amphibians.

Drainages are mostly bare, and often incised. The lack of vegetation in channels and drainages limits the numbers and kinds of birds that can occur in the region. While historic records are scarce, and rainfall is limited, the natural landscape (one with higher species diversity and larger populations) likely was one with riparian willow thickets and relatively well developed emergent vegetation within stream channels. Aquatic habitat occurs primarily in stockponds, but these too are primarily unvegetated, with only about 3 acres of perennial marsh identified in almost 9,000 acres of grassland.

Although wetland delineations have not been completed for much of the land in Zones C and D, a reconnaissance of the area indicates that there are only a few areas outside of the drainage channels and developed ponds that would be considered wetlands. While this is primarily an attribute of the hillside habitat, undoubtedly some reduction in potential wetlands has occurred with decades of agricultural activities.

The management and enhancement plans contained in this RCP, particularly Program 2C: General Habitat Management Strategies specifically target the grassland habitats, channels, and ponds.

The Conservancy will develop site specific management plans for the habitat management properties it acquires. In general, these management plans will be consist of the appropriate strategies as described under Program 2A such as some

reduced level of grazing (or other activity), as well as protection and/or enhancement of the other resource values of the site. Where conservation easements are acquired, the Conservancy will work with private landowners to develop the appropriate management plan.

5.4 HABITAT AND SPECIES MONITORING AND ASSESSMENT

At the onset of construction activities in Zone A, the Conservancy will fund a consulting biologist position and establish a scientific advisory panel to advise the Conservancy for a minimum period of 4 years. The consulting biologist will monitor and assess the success of the biological resources management efforts in all high value habitat areas owned or managed by the Conservancy. The on-site presence of the biologist will facilitate timely solutions to problems that may arise as a result of construction activities and increased human presence.

Responsibilities will include:

- Monitoring habitat conditions in biological resource management areas,
- Coordinating special status species surveys,
- Monitoring restoration activities in wetlands and other habitats for special status species,
- Consulting with resource agencies and other regulatory entities to address special status species and habitat management issues,
- Coordinating responses to biological resource management problems,
- Assessing the success of management and restoration efforts,
- Coordinating with other regional biological resources management programs, and
- Documenting and reporting monitoring results and status of management efforts

The Conservancy will coordinate with the scientific advisory panel to ensure that the responsibilities identified above are implemented. The Conservancy will be responsible for adopting this program and for ensuring that long-term maintenance of the habitat is achieved.

CHAPTER SIX: IMPLEMENTATION

This chapter describes the inter-agency relationships and jurisdictional responsibilities for the implementation of the RCP and authorization of subsequent permits.

6.1 PROJECT APPROVALS BY CITY AND COUNTY

Approval of the Specific Plan and certification of the EIR will satisfy the requirements of the California Environmental Quality Act. Upon approval of the Specific Plan and certification of the EIR, the City of Livermore and County of Alameda may proceed with approvals for specific projects in the Plan Area. The City of Livermore shall be responsible for the I-580 Hills in Zone C and the development approvals within Zone A, the area to be annexed to the City, while Alameda County shall be responsible for development approvals within Zones B, (the remainder of) Zone C, and Zone D, the area to remain under County jurisdiction.

As specific project applications are received, City or County staff, as appropriate, shall ensure that conditions are imposed to address biological resources in a manner that is consistent with the Specific Plan policies, EIR mitigation measures, and the RCP.

For projects located in Zone A, the Management Practices Handbook provides specific guidance on the types of pre-construction surveys that may be necessary and the timing of those surveys. The Handbook also provides measures for protecting habitat during construction and for mitigating effects on habitats and species within the development area. The project application and proposed mitigation measures for biological resources should be reviewed for their conformance to the RCP and the Handbook. For many projects in Zone A and perhaps for some projects in Zone B, additional resource agency authorizations may be required in order for a specific project to proceed (see below).

6.2 PROJECT APPROVALS BY REGULATORY AGENCIES

Following is a discussion of the types of regulatory actions that may be required for specific development projects within the Plan Area and a description of how the RCP could be implemented to satisfy the permit requirements. To the extent feasible, the City and County should encourage the resource agencies to comply with the recommendations of the RCP in identifying permit conditions for specific projects.

United States Fish and Wildlife Service: Federal Endangered Species Act. are federally listed as threatened or endangered. As a fundamental element of this protection, Section 9 of the Endangered Species Act specifically prohibits killing, harming, or otherwise “taking” endangered and threatened animal species. Other sections of the Act (i.e. Sections 7 and 10) allow for some take of listed species provided that certain conditions are met. For listed plant species, the Endangered Species Act does not strictly prohibit take but does require compliance with state regulations.

For projects involving a federal action (e.g., issuance of a permit) that could affect listed species, the federal authorizing agency is required to consult with the U.S. Fish and Wildlife Service under Section 7 of the Endangered Species Act to ensure that no jeopardy to those species will result from the action and that reasonable and prudent measures are implemented to mitigate impacts on listed species. It is expected that Section 7 consultation will be required prior to issuance by the United States Army Corps of Engineers of Clean Water Act Section 404 Permits for activities occurring in jurisdictional areas within the Plan Area (see Section 5.3.3 below). A successful consultation will result in a “no-jeopardy” biological opinion from the U.S. Fish and Wildlife Service and effectively serves as the federal applicant’s permit for incidental take of listed species.

For projects without federal involvement, a mechanism for incidental take of listed species along with assurances of long-term habitat protection is provided through Section 10 of the Endangered Species Act. Section 10 (a)(1)(B) permits for take of listed species can be issued by the USFWS, typically through the applicant’s preparation and implementation of a Habitat Conservation Plan.

The RCP is intended to establish the framework for the specific mitigation actions required through individual Section 7 consultations to eliminate jeopardy to listed species. It also has been organized to include most of the required elements of a Habitat Conservation Plan in order to achieve the broader conservation objectives typically associated with that process.

California Department of Fish and Game: California Endangered Species Act. The California Endangered Species Act prohibits the take of species listed by the State of California as endangered or threatened and of candidate species. Species so protected by the State of California are not necessarily the same as those listed by the federal government. If take would occur as a result of development activities in the area, then an incidental take permit or some other

authorization must be secured from the California Department of Fish and Game in accordance with certain statutory criteria (e.g., the applicant must “minimize” and “fully mitigate” impacts on the protected species. In addition to the provisions of California Endangered Species Act, certain provisions of the California Fish and Game Code (e.g., Section 3503.5) protect from take various species that are not listed as threatened or endangered.

The only state-listed species known to occur in the Plan Area is the palmate-bracted bird’s beak plant. As discussed above, development within Zone A would not result in the removal of any currently known occurrences of the bird’s beak plant. However, some bird’s beak plants could establish in areas of proposed development prior to initiation of construction.

Although not listed as a threatened or endangered species, the burrowing owl is protected under Section 3503.5 of the California Fish and Game Code. Mitigation measures identified in this RCP will prevent any “take” of burrowing owl by ensuring passive relocation of owls and the set-aside of suitable replacement habitat for that species.

The limitations on take of listed plants are subject to an exception in Section 2080 of the Fish and Game Code that defers to other provisions found in the state’s Native Plant Protection Act (Sections 1900 - 1913 of the Code). The Native Plant Protection Act includes a 10-day minimum notification provision for land owners with identified rare or endangered plants growing on their land. The notification procedure is intended to allow California Department of Fish and Game an opportunity to salvage such plants prior to a land use change that could affect them. After that time, the landowner is allowed to proceed with land use activities resulting in removal of the plants without further obligations under the Native Plant Protection Act and California Endangered Species Act. Compliance with this notification/salvage provision may eliminate the need for Individual Take Permits for the removal of state-listed plants growing on private land. Following this interpretation, project applicants in the Plan Area would need only to notify California Department of Fish and Game of removal of these plants with no further formal authorization required from the Department under the California Endangered Species Act.

United States Army Corps of Engineers: Section 404 of the Clean Water Act.

Section 404 of the Clean Water Act requires that a permit be issued by the U.S. Army Corps of Engineers prior to the discharge of fill or dredged materials into any “waters of the United States.” Waters of the U.S. are broadly defined in the U.S. Army Corps of Engineers’ regulations (33 CFR 328) to include, among other areas, navigable waterways, their tributaries (including intermittent streams), and wetlands. Wetlands are defined as areas meeting all three of the following criteria: a predominance of hydrophytic vegetation (as determined by lists of wetland indicator species), hydric soils, and wetland hydrology (inundation or saturation during a significant portion of the growing season).

Non-wetland areas such as barren intermittent stream channels could also be subject to Section 404 jurisdiction if it can be demonstrated that during some portion of the year, the channel acts as a tributary and conveys water that eventually reaches perennial surface waters. Demonstration of this water conveyance can be observed and/or assumed in the field by the presence of a defined bed and bank structure in the channel and a discernible ordinary high water mark (OHW).¹

The U.S. Army Corps of Engineers issues two types of permits, individual and general, that allow for the deposit of dredged or fill material into waters of the United States, including wetlands. Individual permits required by the U.S. Army Corps of Engineers for specific activities may be issued only after an individual application is submitted and the formal review process is complete. General permits, which include nationwide permits, are pre-authorized permits for specified categories of activities on a state, regional, or national basis. General permits are issued to cover those activities with minimal impacts on aquatic resources and require minimal time, if any, for U.S. Army Corps of Engineers’ review. Some of the general permits require notification; the remainder do not require further authorization from the U.S. Army Corps of Engineers as long as all of the conditions of the general permit are met.

If either general or individual permits from the U.S. Army Corps of Engineers are required for fill in waters of the United States, including wetlands, mitigation to offset losses of these habitats is typically required. For projects in the Plan Area that need to provide wetland mitigation, the RCP recommends that creation or

¹ The OHW is “that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.” [33 CFR 328.3(e)].

restoration of this habitat type be focused in designated lands shown on Figure 6, rather than creating small isolated pockets of wetlands within the development area. The U.S. Army Corps of Engineers, California Department of Fish and Game and the Regional Water Quality Control Board approve mitigation proposals through the permitting process, and so this goal of focusing creation/restoration efforts may not always be met. However, creating wetlands within large contiguous open space areas generally provides more habitat value and is therefore preferable to creation and maintenance of isolated pockets.

Regional Water Quality Control Board: Section 401 of the Clean Water Act.

Section 401 of the Clean Water Act requires that the discharge of dredged or fill material into Waters of the U.S. does not violate state water quality standards. Certification that a proposed activity meets state water quality standards must be obtained for a U.S. Army Corps of Engineers permit to be issued under Section 404. States may choose to certify the U.S. Army Corps of Engineers' nationwide permits generally, or retain jurisdiction to review them individually. California has not certified certain nation wide permits that were reissued in 1996 (see 33 CFR as noticed in 61 FR No. 241). Therefore, nation wide permits are not "in effect" in California unless they are individually certified by the State Water Quality Control Board.

Prior to issuance of a Section 404 permit, an applicant must obtain water quality certification from the San Francisco Bay Regional Water Quality Control Board (Regional Board). In practice, to obtain water quality certification from the Regional Board, an applicant is required to provide mitigation for impacted Waters of the U.S. Mitigation for projects in the Plan Area should also conform to the RCP guidelines discussed above for U.S. Army Corps of Engineers authorizations. The Regional Board may waive certification of the proposed activity and insist instead that Waste Discharge Requirements be issued under the Porter-Cologne Water Quality Control Act of 1970 prior to the commencement of any grading activities.

California Department of Fish and Game: Section 1601 - 1607 of the Fish and Game Code. The California Department of Fish and Game has jurisdictional authority over rivers, streams and lakes under California Fish and Game Code Sections 1601 - 1607. California Department of Fish and Game has the authority to regulate work that will substantially divert, obstruct, or change the natural flow of a river, stream or lake; substantially change the bed, channel, or bank of a river, stream or lake; or use material from a streambed. Activities of state and local agencies and public utilities that are project proponents are regulated by California Department of Fish and Game under Section 1601 while the activities of private individuals that are project proponents are regulated under Section 1603.

The type of activities California Department of Fish and Game regulates under Sections 1601 - 1607 include re-channeling and diverting streams, stabilizing banks, implementing flood control projects, crossings of rivers or streams (including bridges and culverted crossings), diverting water, damming streams, mining gravel, and logging operations. To proceed with such projects, an applicant must enter into a streambed alteration agreement with California Department of Fish and Game. Through this agreement, California Department of Fish and Game can impose conditions to limit impacts on fish and wildlife resources. Realignment and widening of Cayetano Creek as proposed in the Specific Plan will require authorization from California Department of Fish and Game pursuant to Section 1601 - 1607. In addition, smaller tributaries that may be affected in the development area, and placement of storm drain in or construction of bridge crossings over Altamont Creek or Las Positas Creek may require an agreement with Fish and Game. If mitigation is imposed in these agreements, the mitigation, as well as any measures to stabilize creek banks, should comply with the RCP recommendations.

APPENDICES

APPENDIX C: LAND MANAGEMENT AND ENHANCEMENT PLAN

The Land Management and Enhancement Plan shall include the following:

(Comment: The Land Management and Enhancement Plan should include, at a minimum, the information regarding proposed actions on the site. As indicated in the RCP, the plan should include specific proposals for managing grassland resources, as well as any wetlands, riparian areas or aquatic habitats on the subject parcel. The following are potential concepts to apply to the management plans.)

- a) Grassland Management
 - i. A grazing plan, with levels suitable for natural resource enhancement
 - ii. Restrictions on the use of rodenticides.
 - iii. Any supplemental watering devices or sources (e.g. watering troughs, etc.) to be developed for cattle.
- b) Wetland Management
 - i. Location of potential wetland areas
 - ii. Protection measures (e.g. cattle fencing) proposed
 - iii. Any enhancement or expansion of existing wetlands
- c) Riparian and Stream Corridor Management
 - i. Locations of any stream corridors
 - ii. Protection zones along stream corridors, and means of protection (e.g. fencing)
 - iii. Any proposed planting in the corridor (e.g. with native willows, sycamores, oaks)
- d) Aquatic Habitat Management
 - i. Locations of any stock ponds, natural ponds or pools
 - ii. Protection zones around aquatic habitats, and means of protection (e.g. fencing)
 - iii. Any proposed enhancements or expansions of the aquatic habitats

APPENDIX D: LIST OF USES AND PRACTICES INCONSISTENT WITH CONSERVATION EASEMENT

The following uses and practices are inconsistent with the purposes and terms of the Conservation Easement and are prohibited:

(Comment: The following are examples of the features likely to be common to most conservation easements. Others may be needed or some of these deleted depending on the circumstances of the individual property.)

- a) Unseasonal watering, use of herbicides and rodenticides, weed abatement activities, and fire protection activities incompatible with the purpose of this Conservation Easement
- b) Use of off-road vehicles for recreational activities *[or as an alternative to the foregoing, add an exception provision such as "except for (e.g. repair and maintenance activities) or in (e.g., specified areas)"]*
- c) Surface entry for exploration or extraction of minerals
- d) Erecting of any building or billboard
- e) Depositing of soil, trash, ashes, garbage, waste, bio-solids, or any other material incompatible with the purpose of this Conservation Easement
- f) Excavating, dredging or removing of loam, gravel, soil, rock, sand or other material
- g) Otherwise altering the general topography of the Property, including building of roads
- h) Removing, destroying, or cutting of trees, shrubs or other vegetation, except as required by law for (1) fire breaks, (2) maintenance of existing foot trails or roads, or (3) prevention or treatment of disease

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